A Course of Lectures
ON THE
STRUCTURE AND DEVELOPMENT
OF THE
VERTEBRATE SKELETON.

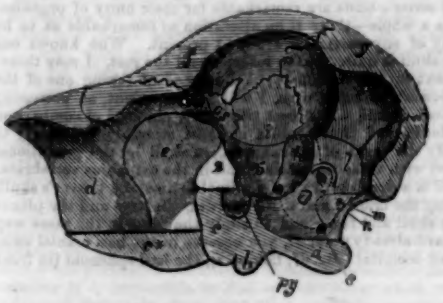
Recently delivered at the Royal College of Surgeons of England,

BY PROFESSOR HUXLEY, F.R.S.

LECTURE X.

MR. PRESIDENT AND GENTLEMEN,—I was loth to leave so interesting a subject as the construction of the crocodilian skull in the imperfect state in which I was compelled to leave it at our last lecture. I should like very much to have spoken of the singular composition of the tympanum and of many other points which arise in the structure of that very singular reptile; but time presses, and I have so much to go over to-day, that it is absolutely necessary to leave that on one side. However, we dwelt upon the most important points. To-day I commence with the study of the bird's skull, which happily, interesting as it is, and large a subject as it is, in some senses can be dismissed in comparatively few phrases on account of our previous careful study of the reptilian skull; for a bird, after all, is, as I have said before, essentially a modified reptile, and all the elements which we found in the crocodilian skull and in the lizard's skull, and so on, are to be found again in quite similar conditions in the bird's skull. If you make a vertical

FIG. 66.



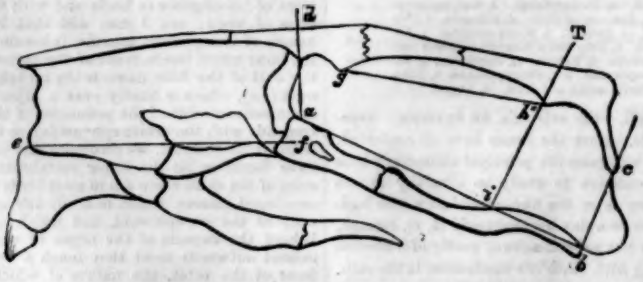
Section of ostrich's skull. *a*, Basi-occipital. *b*, Basi-temporal. *c*, Basi-sphenoid. *c**, Rostrum of ditto. *d*, Ethmoid. *e*, Pre-sphenoid. *f*, Frontal. *g*, Parietal. *h*, Supra-occipital. *i*, Ali-sphenoid (upper part). *k*, Trigeminal foramen on lower part of ali-sphenoid. *l*, Prootic. *l'*, Epiotic. *m*, Opisthotic. *n*, Ex-occipital. *o s*, Orbito-sphenoid. *p y*, Pituitary fossa. 1, Olfactory. 2, Optic. 7, Portio mollis and dura. 8, Vagus.

section of the bird's skull,—the ostrich's, for example,—especially in the young state, before the bones have all coalesced, it becomes quite easy to recognise the principal elements which we have already had occasion to study so carefully in the reptilia generally. There is in the basi-cranial axis, the basi-occipital (Fig. 66, *a*), the complex basi-sphenoid (*b*, *c*), formed, as my friend Mr. Parker has so well shown, partly of a median ossification corresponding with Rathke's ossification in the coluber, and partly of two lateral inferior ossifications corresponding with those that appear about the sides of the carotids in the coluber. Then in such a skull as the ostrich's there is in front a great bony plate, consisting of a large posterior portion, answering in a great measure to the pre-sphenoid (*e*), which we have seen elsewhere; and in front again a bony plate, continued forward by a cartilaginous septum to the end of the nostrils, which represents the ethmoid and the inter-nasal septum (*d*). Now as to these parts there is no difficulty at all, nor is there any need to dwell upon them. As to the lateral arches of the skull, you find an ex-occipital (*n*) in exactly its ordinary place. The supra-occipital (*h*) occupies its ordinary position. The parietals (*g*) are in their place, and the frontals (*f*) in theirs; so that there can be no difficulty at all in recognising them. And then in front, at the sides of the nostrils, upon each side of the pre-maxillary prolongation which comes in the middle line, are placed the nasal bones, bounding as usual the apertures of the nostrils, and lying about the nostrils themselves. Nor is there any difficulty at all, important as the point is, in recognising the elements of the periotic capsules; and in this respect the study of the skull of the bird is particularly valuable, because it removes all doubt that might arise—as I shall endeavour to point out to you by-and-by—as to the identity of certain bones in reptiles with those that we shall find in the higher mammalia. There is a bone (*k*) forming a considerable portion of the lateral walls of the skull, having a front face and a hinder face divided from one another by a certain elevation, in front of which passes out the third division of the fifth (5), which lodges a great part of the anterior vertical semicircular canal, which has perforating it the branches of the seventh nerve (7), both the portio mollis and the portio dura: therefore corresponding in every relation to that bone which in the reptile we have recognised as the prootic; for precisely the same definition, the same terms, which apply to the crocodile, to the snake, and to the fish, will apply to this bone. Furthermore, in very young birds it is possible to discover a distinct and separate ossification (*m*) at the hinder part of the mass between this bone and the ex-occipital; that ossification helping to form the fenestra ovalis, holding within itself the fenestra rotunda, and lodging the posterior part of the organ of hearing, part of the external semicircular canal, and part of the posterior vertical semicircular canal. This separate ossification, which very early coalesces with the rest, lies in front of the exit of the eighth nerve (8), which passes out there. It therefore corresponds in all its relations to that distinct and separate element in the reptile, the snake and the lizard, which we found answered to the opisthotic in man and in the fish. Furthermore, in young birds there is a distinct ossification (*l*) mostly separate from the supra-occipital, which eventually helps to shelter the upper part of the posterior and anterior vertical semicircular canals, and ultimately coalesces with the others. This ossification exactly answers to that which we have already known under so many forms as the epiotic, and retains all its relations; so that the capsule surrounding the organ of hearing in the bird consists of the same parts, having exactly the same relations, as we have found already throughout the vertebrate series. But you will find in the bird a great advance in the size of the cranial cavity—an advance which corresponds with the very considerable advance in the development of intelligence in birds and with the corresponding large mass of brain; and I may add that, having determined the nature of this periotic capsule, it becomes at once obvious that the bone which lies in front of the periotic capsule—in front of the exit of the fifth pair—is the ali-sphenoid (*i*), and that the next (*o s*), which is hardly ever a separate ossification, which lies upon each side of the peduncles of the olfactory lobes, corresponds with the orbito-sphenoids: so that, part for part, and element for element, we recognise the same parts here that we have found in all the lower vertebrata. Then, again, at the sides of the skull there are in most birds sometimes very largely developed masses, which in adult life are connected with the body of the pre-sphenoid, and which are placed immediately behind the capsule of the organ of smell. These sometimes extend outwards until they touch a bone which is placed in front of the orbit, the nature of which has been very much discussed, some considering that it corresponds with the pre-frontal of the crocodile, and some considering that it corresponds with the lachrymal of the crocodile. On the whole, I am inclined to think it is difficult in these cases, where there are no certain, absolute, and definite relations to the nerves or soft parts, as in others, to decide upon the nature of such bones; but I am disposed to think that the lachrymal theory is the one which better meets the necessities of the case.

That mass which lies immediately behind the capsule of the organ of smell, I am informed by Mr. Parker, (who has found it in that condition,) originates as a perfectly separate ossification, and you will perceive that it corresponds very closely in composition with the bones of Bertin in the human subject; it is an ossification upon the posterior part of the organ of smell which coalesces with the body of the pre-sphenoid. That is exactly what takes place with the bones of Bertin. But it must be admitted that there are cases in which this ossification extends outwards, and in which it protects part of the sides of the olfactory capsule, and gives passage to the nasal division of the fifth, and so on; and, indeed, takes on the functions of the pre-frontal. So that it may be doubted whether the pre-frontal is not in many cases represented by this as well. As to the inferior arches of the bird's skull, the pre-maxilla in birds is always remarkable on account of its very large size, and on account of the early coalescence of the two parts of which it is composed, and the consequent formation of a tri-radiate bone which forms the front part of the bill, and is sheathed over with horn; this tri-radiate bone being by far the largest element in the upper jaw, and having two lateral processes, which are the lateral processes of the maxilla and the palatine processes, and having a very much larger structural and functional importance than the true maxilla itself. Upon the under surface of the skull are placed the palatine bones in their ordinary position, bounding, as usual, the posterior nares, having the vomer, which is sometimes double, in the middle line between them, and forming thus the boundary of the posterior nares, but, more strictly speaking, of what we call the median nares in man and in the lower vertebrata; the palatine bones and the pterygoid bones, and so forth, of the birds not arching under as they do in the crocodile to separate the nasal passages completely from the mouth, but leaving those passages and communications as they are in the lower vertebrata. Then the pterygoid bones are connected in front with the palatines, and they extend outwards as in lizards, and become connected with the quadrate bone, which in birds is usually movable. This corresponds exactly with the quadrate bone in lizards and other oviparous vertebrata. On the outer side the quadrate bone is connected as in the lizards, crocodiles, and so on, with the bone which is called the quadrato-jugal, corresponding with that bone which I have pointed out in the frog, and has in front a narrow, insignificant bar which connects it with the maxilla proper, all these parts in birds being exceedingly reduced. In consequence of this there is, as in the snakes—in some snakes at any rate—a certain connexion between the movements of the quadrate bone and the movement of the parts of the upper jaw. In such birds as the ostrich, where the ethmoid ossification is very large and solid, and the parts connected with it, any push exerted upon the parts of the upper jaw by means of the motion of the quadrate pedicle comes to nothing, because there is no possibility of movement of any great consequence. But there are many birds in which a definite joint is framed between the ethmoidal and internasal regions; a space below becoming membranous, and the upper extremity of the face becoming connected by a regular joint with the frontal bones. In that case there is a connexion between the movements of the lower jaw and the movements of the pre-maxilla itself; and when the lower jaw is depressed by the action of the muscles corresponding with the digastric, the extremity of the quadrate is caused to travel a little forward; that pushes upon the pterygoid, the pterygoid pushes upon the palatine, the palatine pushes upon the maxilla, and so on upon the vomer and upon the pre-maxilla; and the consequence is that the upper jaw of the bird is lifted at the same time that the lower jaw is depressed. Anyone who has kept a parrot must have been surprised by the singular mobility and flexibility of the upper jaw in these creatures. That arises entirely from the thrust which is exerted in this indirect way from the pterygoid arch upon the pre-maxilla, by means of the depression of the lower jaw forcing the extremity of the quadrate forward. That joint is well developed in many birds, and constitutes a very striking part of their anatomy. For example, in the pelican, it is quite obvious to everyone that when we move the pre-maxilla upon that joint there is a certain pull exerted upon the lower end of the quadrate; and of course, conversely, when the angle of the jaw is made to travel towards the skull, and the lower jaw is therefore depressed, the palatals and pterygoids move forward, push upon the pre-maxilla, and that is moved upwards; so that birds have the exceptional peculiarity of moving both the upper and lower jaws in opening the mouth. As for the lower jaw and quadrate bone, that has in its essentials quite the same position as in the reptile; there is the same movable quadrate bone and articular piece, and various other elements of the lower jaw, all of which in birds usually coalesce very early, but present no difference of any very great moment from the skull of reptiles. The hyoidean apparatus is always comparatively small, and in birds presenting one or two large cornua with median anterior prolongations into the substance of the tongue. In its development, the bird's skull corresponds so precisely with the lacertian skull that there is no need to enter into details respecting it. There is at first the membranous skull, with the notochord in its middle axis; afterwards the cartilaginous skull, taking precisely the same shape as in the lizard or in the snake, consisting of a basilar mass investing the notochord; and the two trabeculæ extend forward; then having at the sides the large periotic cartilaginous capsules and all the ossifications which occur in that manner which I have described so often as, I fear, to be almost wearisome; at any rate, there is no need now to enter largely into that point.

Many as the modifications in the details of the structure of the bird's skull are, yet there is nothing so fundamental in the whole series—birds are remarkable for their unity of organization as a whole—there is no alteration so remarkable as to be worthy of any particular study at present. Who knows one bird's skull is quite able to interpret all the rest. I may therefore next turn to mammals; and instead of taking one of the very lowest to begin with, I will take a rodent, as possessing the kind of skull which best affords the material of comparison with birds, and thus enables us most certainly and surely to identify the parts of the mammalian skull by the gradational method with those which we found in the oviparous vertebrata. Fig. 67 is a diagram of a longitudinal section of a beaver's skull, showing the cranial and nasal cavities, the axes and the planes of the skull and face; and to study the parts in the same way as I have already pursued, you observe in the basi cranial axis, the basi-occipital (Fig. 67, behind *i*), the basi-sphenoid (in front of *i*), and the pre-sphenoid (*f*), which pre-sphenoid in certain rodents—such as the hare, for example—and in certain primates becomes so greatly elongated vertically, and so much compressed from side to side, as to form an inter-orbital septum, thus very

FIG. 67.



Section of beaver's skull. *a*, *b*, Basi-cranial axis. *b*, *c*, Occipital plane. *a*, *d*, Ethmoidal plane. *b*, *i*, Basi-occipital. Left of *a*, Ethmoid. *d*, Frontal. In front of *d*, nasal. *e*, *f*, Basi-facial axis. *i*, *T*, Tentorial plane. *g*, *h*, Greatest cerebral length. In front of *i*, Basi-sphenoid. *f*, Pre-sphenoid.

indirectly simulating what we call the perch type of skull. But in the great majority of the mammalia there is no such vertical flattening, or rather side-to-side flattening, of the presphenoid; and the continuation forward of the cavity of the skull from one end to the other gives the mammalian skull rather the feature of what we called the carp type of skull, which is the predominant type in the mammalia. All these bones are separated by definite synchondroses; and there is no difficulty at all in identifying the basi-sphenoid, having the sella turcica upon the upper surface as usual. Then there is the ethmoid (in front of *a*, *d*), forming a vertical plate, a well ossified plate, continued directly forwards in the middle line, and terminating in a more or less ossified inter-nasal septum in front; so that none of these parts present any difficulty. Again, the ex-occipital (below *c*) and the supra-occipital (above *c*) have precisely the same relations as we found throughout the vertebrate series. Then there is a bone, a great mass of which lies in front of the exit of the third division of the fifth, and corresponds precisely with the ali-sphenoid in the bird, and, therefore with the ali-sphenoid in the lower vertebrata. Then there is a separate bone which corresponds with the orbito-sphenoid in man, and with the orbito-sphenoid (or that ossification which represents it) in the bird. No one has ever doubted that the orbito-sphenoid and the ali-sphenoid correspond with the bones which have received those names in man himself. In the roof there is the supra-occipital bone, with an upper accessory portion, which has been called the inter-parietal, which corresponds in reality with the two superior membrane ossifications in the squama occipitis of man; and then there are two parietal bones (above *g*, *h*), two frontal bones (at *d*), and two long nasal bones (in front of *d*) beyond these.

But that bone in the mammalian skull which is most important for us to identify clearly with the corresponding bone in the bird, and consequently with the corresponding bone in the whole series of vertebrates, is, as in previous cases, the prootic. We found many difficulties in identifying this bone in man with the bone in the lower vertebrata, on account of the singular modifications in position which the lateral elements of the skull undergo in man in correspondence with the great development of brain; but in the beaver there is no such difficulty. I would ask you simply to compare the prootic of the bird with that of the beaver, not merely in their essential details, but in such minor matters as their external appearance and form. You will find that in the ostrich there is a bone (Fig. 66, *k*) which has a ridge upon its front side, and the portion extending in front of the ridge bounds the hinder part of the aperture of the exit of the third division of the fifth; in the beaver there is a bone having quite the same quadrate shape, the same relative size to the skull with the ridge, taking pretty much the same direction in relation to the axis of the skull—a flattened surface in front, the edge of that flattened surface forming the hinder boundary of the third division of the fifth. Upon the posterior face of this bone there is, as in the ostrich, in the first place, an aperture by which the portio dura and the portio mollis enter; and above that there is a little fossa, a little deepish pit, and that fossa has a semilunar, or almost circular, boundary which indicates the position of the anterior vertical semicircular canal. I conceive it is impossible to find any two bones which more clearly and definitely show that they precisely correspond. There is no relation, I repeat, in which they do not precisely answer the one to the other; so that I hold it to be one of the best established propositions of anatomy that whatever name you propose to give to the ali-sphenoid in the beaver, you must also give to its representative in the ostrich; and that whatever name you give to *k*, Fig. 66, you must also give to the prootic bone throughout the vertebrate series. In the beaver the posterior vertical semicircular canal corresponds to its position in man, and occupies the same relative place; and, although the absolute development of these parts in this particular bone has not been worked out, I think there can be no doubt, from what I stated respecting the development of the corresponding bone in man, that this also arises by three centres of ossification—there being one behind, the opisthotic, one upon the outer side and embracing eventually the upper part of the posterior canal which corresponds with the epiotic, and the great anterior one in front investing all the anterior parts forming the prootic. But you will observe in the mammalia, inasmuch as in the beaver's skull it would have been very easy indeed to push out what is commonly called the petrosal altogether—this complex bone, this periotic bone, is quite loosely placed in the side of the skull; anyone can push it all out together. Consequently in this case, instead of that taking place which has usually taken place, as we have seen in the lower vertebrata—that is, instead of the prootic remaining a distinct bone, and the epiotic uniting with the supra-occipital, and the opisthotic uniting with the ex-occipital—we have the peculiar mammalian character (I do not say the exclusively mammalian character) of all the three elements of the periotic capsule uniting together to form one bone. In the rodent they do not coalesce, as in man, with the squamosal; that remains quite distinct throughout life.

Next as to the inferior arches of the mammalian skull. After what I have stated respecting the characters of these parts in man, it is almost needless to go into any details, because no one has ever doubted that the bones which we call the premaxilla—for example, the maxilla, the palatine, and the pterygoid in the beaver—do most unquestionably correspond with those which have received the same names in man. It is quite easy for whoever knows the one at once to identify the others by their relations in the two skulls. Furthermore, in the beaver you find that the tympanic element has taken a very large development—much larger in proportion than in man,—and becomes the great bulla ossea; but it exhibits no change in its essential relations. Then, if you consider the parts which form the interior organ of hearing, you find in the beaver, as in man, a malleus, an incus, and a stapes; and exactly those arguments which apply to the malleus, the incus, and the stapes in man, into which I entered at so much length, apply to the case of the beaver. Whatever reason we had—and I believe we had a very good reason—for identifying the malleus with the articulare of the lower jaw in the oviparous vertebrata, and the incus with the quadratum—whatever reasons we had for making these identifications in man, they apply with precisely the same force to the beaver, and therefore I need not enter into that point again.

But you will observe, in illustration of what I stated broadly before in describing the gradual series of changes from the lowest vertebrata to the highest, that one of the most remarkable is that gradual shortening of the peduncle by means of which the lower jaw is attached to the skull. In the fish we have intervening between the lower jaw and the skull the quadrate, the hyo-mandibular, and the symplectic. In the amphibian, a continuous cartilage, the upper part of which only appears to represent the hyo-mandibular and the symplectic, and is very short, formed the same support—kept the lower jaw away from the skull. In the reptile we had that peduncle shortened by the complete omission of the hyo-mandibular, the only bone remaining between the lower jaw and the skull being the quadrate. In the mammalia the shortening goes a step further: the quadrate is removed altogether from its functions of supporting the lower jaw and connecting it with the skull, and the lower jaw comes in contact with the squamosal element of the skull, and with that articulates. Then another great difference is in the character of the lower jaw itself: instead of its consisting of an articular piece, round which the dentary and the angular, supra-angular, and complemental, and all the rest of those parts which we found in the crocodile are arranged, we find that the articulare has been removed up into the interior of the skull, that the long cartilage which runs down one side of the jaw and amongst the bones of the jaw in the oviparous vertebrate, has entirely disappeared, and all that remains of the complex lower jaw of the lower vertebrate is the single dentary piece which bears teeth, and in which you find no trace of that complexity which is discovered in the ramus of the jaw of lower vertebrates. These parts are united together by symphysis in the middle line, which may either be separated by cartilage through life, or the two parts may become firmly anchylosed together, as we know to be the case in man. The hyoidean apparatus, losing its attachment by means of the hyo-mandibular as it did in the reptile, becomes in mammals, either directly or indirectly, by osseous matter, by cartilage, or by ligament, connected with the posterior part of the periotic capsule, and the hyoidean apparatus is reduced to its minimum of complexity, being represented hardly ever by more than its body and its two pair of major and minor cornua.

The only other point about the ordinary type of the mammalian skull is one to which I have referred fully in speaking of man's skull—the question of what became of the pre-frontal; and I endeavoured to give you good reasons, in speaking of man's skull, for believing that the homologue of the pre-frontal bone of the reptile is the lateral mass of the ethmoid in the mammalia. We found it had the same relation to the organ of smell, the same relation to the nasal division of the fifth, and so on. That eventually becomes united with the vertical plate of the ethmoid, and with the cribriform lamella, which allows the passage of the olfactory nerves.

These features which I have now described in the beaver are

the general features of the mammalian skull—those which are the most important and characteristic of the mammalian skull as a whole. But the mammalian skull presents a number of exceedingly interesting and remarkable modifications, which I must now endeavour to point out briefly, selecting merely the most characteristic points. One of the most remarkable modifications of the mammalian skull is that which is found in the monotremata or the ornithodelphia, in those animals which are distinguished by (as I stated in my lecture on classification) so many affinities to the reptiles and to the avian series. As an example of a skull of this group, I will take the skull of the echidna, the so-called porcupine of the Van Diemen's Land settlers, which is the more easily understood, as its sutures remain longer persistent than in the ornithorhyncus. In both these genera the sutures disappear very early, particularly in the ornithorhyncus, and it is difficult to make out the relations very exactly. In the echidna they persist much longer, and you are able in consequence to make out the exact relations of the bones with much more satisfaction. The skull is not a little peculiar, not like what you would at all expect *à priori* to find in the lowest division of mammals, except in some respects. It is drawn out at the extremity into a long beak, narrower than the duck-like beak of the ornithorhyncus, but still somewhat duck-like in its character. And then the hinder part of the skull is beautifully enlarged, and runs backwards and terminates in two exceedingly large condyles, very large in proportion to the rest of the skull. In the basal axis of the skull there are precisely the same bones as we should meet with in other mammalia. There is a basi-occipital, a basi-sphenoid, a large pre-sphenoid, and the great ethmoidal mass running along and continued into the inter-nasal septum. There is nothing here worthy of any particular notice, except the singular spongy character—lamellar character—of the bony substance of the pre-sphenoid itself, which is continued into the ethmoid. It is difficult to say where one begins and the other ends. There are peculiarities in the lateral walls of the skull and in the upper wall of the skull which are worthy of special attention. In the first place, the occipital bone rises up very high on to the roof of the skull, and forms the squama of the occiput; it takes the position of the plane of the squama of the occiput, and forms an acute angle with the basis cranii, which, as a general rule, is a feature characteristic of, or at least very common among, purely aquatic animals. Then the lateral masses are very large, extending to the sides of the skull. The parietals are large bones situated in the sides of the skull in their ordinary place, while the frontals are extremely small, comparatively speaking. Then the orbito-sphenoids are exceedingly large: they become very large in some mammals—two or three times as big as the ali-sphenoid is by no means an uncommon size. In this case they are exceedingly large, and extend backwards. The optic nerve passes out, as you know, behind them, and then there are two small bones behind the optic nerves—quite small—which are the ali-sphenoids, which have a sort of notch at their posterior margin through which the third division of the fifth nerve passes. But the most striking peculiarity about the echidna skull is the great size of the periotic capsule, which extends onwards towards the base of the skull, in the first place, as it does in a bird very much; and then occupies a very large space upon the sides of the skull—a large space between the orbito-sphenoid in front, the ex-occipital behind, and the base of the skull below. It is only a small part of that bone which is occupied by the canal of the organ of hearing. The two divisions of the seventh make their entrance in the usual place, and then the anterior vertical semicircular canal is placed in front and above these nerves, and the posterior one behind them. So that in the echidna the character which we have already had occasion to notice in the beaver is carried to a very much larger extent. In the beaver there is a large portion of the periotic ossification, particularly of the prootic bone, which extends far beyond the limits of the organ of hearing, sending a plate forward for the protection of the brain, and extending upwards far beyond the limits of the organ of hearing. In the echidna there is the same process again to a much larger extent, the prootic particularly being exceedingly enlarged, and it may be behind the conjunction to a certain extent with the epiotic, although, in consequence of the absence of developmental conditions, we cannot determine the point. But certainly the epiotic forms the larger part of the great expansion upwards at the sides of the skull. It is quite an anomalous feature in the skull of the monotreme. In both these animals, the echidna and the ornithorhyncus, the lower jaw is remarkable for its simplicity, and for the small size of anything to be called the coronoid process, or the like; and on the other hand, the tympanic bone is exceedingly small—it remains as a mere partially opened ring, as it does in the fœtal condition of the higher mammals; while, as might be expected, if the malleus and incus are modified parts which occur largely developed in the lower vertebrata, you find that the bones of the internal ear—the malleus and incus—are exceedingly large, and quite out of proportion to the size of the rest of the skull.

(To be concluded.)

A Course of Lectures
ON
PAIN,
AND THE
THERAPEUTIC INFLUENCE OF MECHANICAL AND PHYSIOLOGICAL REST
IN
ACCIDENTS & SURGICAL DISEASES.

Delivered in the Theatre of the Royal College of Surgeons,

BY JOHN HILTON, ESQ., F.R.S.,
SURGEON TO GUY'S HOSPITAL,
PROFESSOR OF ANATOMY AND SURGERY TO THE ROYAL COLLEGE OF SURGEONS.

LECTURE V.—PART III.

THE muscular urinary bladder, with its mucous membrane and nervous supply, offers another example of this same nervous distribution. We see this exemplified in a patient who has in his urinary bladder a stone, which is causing a great deal of increasing irritation, with more frequent desire to pass his water. How is this condition to be explained? It obviously depends upon the fact that the same nerve that supplies the mucous membrane supplies also the muscular apparatus of the bladder. Hence the stone, by annoying the mucous membrane, becomes a constant source of excitation, which causes contraction of the muscular walls of the bladder; and thus it happens that the bladder becomes in some instances so exceedingly diminished in its capacity, and so contracted upon the stone, as to leave scarce any room for urine, and hence the frequent micturition. If the stone be removed, the local irritation subsides; then the capacity of the bladder is restored. In cases of irritable and painful bladder, my colleague, Mr. Cock, has long been in the habit of injecting sedative solution of opium into the interior of the bladder, with great advantage to the patient's condition; and I have myself repeatedly observed the good effect arising from such a proceeding. Here is a case in point.

Chronic cystitis relieved by opium injections, inducing "physiological rest."

A woman, aged seventy-four, came under my care June 27th, 1860. Twelve months previously she noticed that her urine contained blood, which was sometimes bright, sometimes dark and coffee-coloured; there was also great pain, extending up to the umbilicus, of a "cutting" or "twisting" character. The urine seemed to scald the external parts, and she had great irritability of the bladder, passing urine every five or ten minutes. These symptoms had continued with increasing severity up to the time of admission. She had become very thin, and had lost her appetite; she slept very badly, and her bowels were usually confined. There was slight tenderness a little to the left of the umbilicus, and, on deep pressure, towards the left loin, but no pain in the loins or evidence of disease of the kidneys. The vagina and vulva were healthy, except that there was a small but not painful growth at the meatus urinarius. There was no tenderness over the bladder nor in the vagina. No calculus existed in the bladder; the urine was ammoniacal, and contained phosphatic deposits with blood and muco-pus; no cancer-cells could be detected in it. Rectum healthy. There were one or two enlarged and rather hard inguinal glands on the right side. On June 28th she was ordered an injection of fifteen drops of the sedative solution of opium in half an ounce of the mucilage mixture. The bladder

was emptied of its urine by the catheter twice daily, and the injection then thrown in. Five grains of Dover's powder were swallowed three times a day. Almost immediately she began to be relieved, and this is the report of her condition after four days of this treatment:—"The urine has now become clear and free from blood and pus, and on one occasion was neutral. She still has some pain during and after micturition, but the bladder is much less irritable; she can now retain her urine sometimes for an hour." This patient was finally much relieved by the opium injections.

This, then, is a case indicating the value of recognising the anatomical distribution of motor and sensitive nerves, and of employing local anæsthetics. There is nothing more remarkable in introducing opium into an inflamed and irritable urinary bladder, to relieve its irritability, than there is in applying a hemlock poultice to an inflamed joint to reduce its sensibility, or a belladonna plaster over the exterior of a painful shoulder, or dropping a solution of sulphate of atropia upon the conjunctiva to relieve the pain and muscular contraction of the iris in iritis. All this is done upon the same principle, and is based upon the recognition of the same anatomical and physiological facts.

Again, if a man is suffering from acute gonorrhœa, he is likely to have retention of urine from contraction of the muscles or muscular fibre of the urethra, or he may experience a very violent erection. What does all this mean? Merely that the same nerves which supply the lining membrane of the urethra supply the muscular walls of the urethra, as well as that muscular apparatus which, by acting on the venous circulation of the penis at its root, tends to produce a congested condition or a fulness of the penis. The irritation in the mucous membrane manifests itself by spasm or contraction of the muscular walls of the urethra, so as to induce spasmodic stricture and retention of urine, and interferes with the return of blood from the penis, so as to cause distension of the organ or a state of semi-erection. How frequently we see a spasmodic condition of the urethra supervening upon old organic stricture causing retention of urine. No doubt it depends upon irritation, beginning within the urethra behind the stricture, which exerts its influence, first upon the nerves of sensation, and thence upon the muscles of the urethra, through the excito-motory function of the spinal marrow. Large doses of opium relax this muscular spasm, and the patient is able to micturate.

We see this condition of the urethra and penis partially displayed in a case of fracture of the spine in the dorsal region, which leaves a portion of the marrow uninjured below the fracture. In such cases, by repeatedly pinching the skin of the penis or scrotum, you may produce a spasmodic contraction of the muscles of the urethra and penis and a fulness of blood in the penis, so as to make it resemble an imperfect erection or priapism. The pudic nerve, which is distributed to the mucous membrane of the urethra, supplies the muscles of the penis, the skin covering them, and the penis itself; and no doubt it is the friction upon the nerves of the surface of the penis which, by exciting associated muscular contraction in the muscles of the penis, induces the erection and emissions associated with sexual intercourse, or otherwise, as in masturbation.

Regarding onanism and its treatment surgeons are often consulted, and it is a very important matter. It is a habit very difficult to contend with in practice. I know of no way to prevent onanism except by freely blistering the penis, in order to make it raw and so sore that it cannot be touched without pain. This plan is sure to cure onanism. I have adopted this plan of treatment during more than twenty years. Gentlemen have come to me and said, "I have for many years suffered from this abominable, disgusting habit, and I have tried to cure myself of it, but I cannot; for my morbid inclination overcomes my disgust when awake, and I think when asleep I am sometimes pursuing it. Can you offer any suggestion?" I have said, "Paint this strong solution of iodine over the whole of the skin of the penis every night; and if that does not make the organ too sore for you to touch it, then apply in the same way a strong blistering fluid to the penis." The result of my experience in practice has been that in almost every instance the continuance of the habit has been thus entirely prevented.

Here is a case in relation to this subject. The notes are from the patient's surgeon.

"W. B——, aged fifteen, is one of eight children, all of delicate constitution, and himself prone to convulsions in his infancy. After repeated exposure to cold and wet, he called upon his surgeon Sept. 4th, 1860, complaining of pain in the sacrum and left hip and thigh. He was relieved by purgatives and salines. I saw him on Sept. 11th, with both knees flexed, and complaining of great pain in the lower part of the sacrum, with so much tenderness as to be unable to sit down. The left thigh and leg were very tender, and there was excessive tenderness of the surface all down the spine. No local indications of heat in any of these parts; bowels constipated; tongue coated. He was ordered cathartic pills, colchicum, and an aperient mixture, in strong doses; croton oil and tartar emetic liniment to be rubbed along the dorsal and lumbar portion of the spine. Within a week there was great pain along the cervical portion of the spine, extending to the left arm. Says the motion of the shoulder is very painful; elbow free; left hand closed tightly, and any touch either of the fingers or wrist caused him great pain. Slight pressure anywhere on the spine produced great pain, according to his own statement.

"Sept. 19th.—Left hand firmly closed; both thighs drawn up; knees bent, and cannot be extended; toes of left foot inverted, and whole limb very sensitive. The mouth is closed for a few minutes two or three times a day.

"This went on till Oct. 3rd, when a physician from London saw him. This gentleman, in consultation, thought that he recognised an important pathological state of the brain or spinal marrow, and pointed out with great precision the pathological anatomy which was sure to be found at the expected post-mortem examination. This prospect made the friends of the patient very anxious indeed.

"On October 7th he was no better; head symptoms were now added, and for a minute or two he became unconscious.

"11th.—No better; valerianate of zinc, with compound rhubarb pills, quinine, &c., were continued.

"19th.—Consulted with the physician again; fits and trismus worse. He was ordered to have bichloride of mercury, iodide of potassium and bark."

30th.—As the patient was getting worse I was requested to see him. I found him sitting in his chair, the left forearm flexed, with the left thumb turned inwards towards the palm of the hand, and the fingers flexed over it; his face flushing very readily. The skin was cool, and there was no thirst. The pulse was not quick, but the heart was very excitable; the tongue clean; the pupils dilated; skin exquisitely sensitive to the touch when attention was directed to that point, but not when the mind was diverted from it. The contraction of the limb and hand was constant, but could be overcome by persevering efforts on my part, giving way very suddenly. The spine was tender the whole of the way down. I requested that he might be denuded. The penis was very sensitive, and the skin prolonged; the genital organs were cold, but highly sensitive; the hands were cold and damp. He had insisted on sleeping by himself, and in a room to himself. The patient watched especially my examination of the genitals, and when I at that moment looked at him seriously, averted his face as if ashamed. I felt convinced that the whole of the symptoms were the result of onanism.

On October 30th I insisted upon his not sleeping alone, so that he might not be able to continue his habit unobserved, and ordered five grains of mercurial ointment to be rubbed once a day into the axilla, so as to divert his mind from the thing I had in view, and I desired that a blistering fluid might be applied to the penis every night. In about three or four days the hands relaxed and opened, the legs remaining contracted; this contraction continued during sleep. The trismus persisted, but with longer periods of muscular relaxation. The local genital irritation was kept up, small doses of morphia were given at night, and the ointment used till the 20th of November. The mouth was a little sore, having been made so by the mercury. The ointment was then omitted, but the application to the penis was maintained.

Nov. 23rd.—This is the surgeon's report: The "fits" &c. continued till to-day, and to-day the trismus lasted longer than at any former time. He suddenly opened his mouth, regained the use of his legs, and no relapse occurred. Subsequently a mixture of strychnia was given twice a day. I afterwards received this letter respecting the case from his surgeon:—

"My dear Sir,—Young B—— is, and has been quite well; he is now in London. He was cured by the end of last November (one month from my visit). A slight gleet remained for months after; I did nothing for it but cold baths, &c. The application I painted the whole penis well with was the compound tincture of iodine, made stronger by ten or twelve grains of iodine to each ounce. It 'touched him up well' I can tell you; but I don't think the friends ever had any idea what we considered the cause of his illness."

Here is a case, then, which I have placed upon the simple anatomy of the parts—viz., that the same nerves which supply

the skin supply the mucous membrane and the muscular apparatus of the penis,—and I have done so for the purpose of displaying its utility in practice. Not long after I had visited this young patient, a gentleman called upon me. When he came into my room he said, "You have performed a miracle, Sir." "A miracle!" I said, "you really take me by surprise. What do you mean?" "Why, you have cured young B——; he is quite well, and at school. Dr. —— said he would surely die from fits resulting from some constitutional influences inherited from his father and mother." I assured him that what I had done was no marvel; that I simply acted upon common sense, experience, and physiological deduction. With that assurance and explanation he seemed to be satisfied, and so was I.

Mr. President and gentlemen, I have to thank you for your very kind indulgence and self-sacrifice in coming so frequently to hear, perhaps to you, the trite observations of a surgeon who has had, upon the whole, large opportunities for clinical observation and experience. And now I must conclude this my third and last course of these discursive lectures. They have been of necessity desultory, because their object has been to establish a principle; and how difficult of attainment this object is in matters medical we need not to be reminded. It is familiar to us all, that one of the greatest impediments to the advancement of accurate medical knowledge has been, in all times and under all the changeful phases of our professional progress, the tendency to rush inconsiderately into what has at one time been denominated hypothesis, and at another time theory, without any exact appreciation of the terms employed. I prefer, however, the use of the term "principle," as we conventionally employ it, because I intend it to imply a fundamental truth, congruous with and stringing together the subjects treated of.

Rest is a reality: pain is a truth. To study the interpretation of the one and the due application of the other, is but to pursue the simplest and most obvious phenomena which nature presents to us, up to the wide and comprehensive laws on which they depend and by which they are regulated.

In no other science (or combination of science and art) is it, perhaps, so essential that any attempt to establish a legitimate conclusion should be based on the broadest possible foundations, as in ours: and hence, in order to establish clearly that "rest is an important therapeutic agent in the cure of accidents and surgical cases," and to illustrate the principles of its varied application, I have been compelled, first, to survey, as fully as my time admitted, the marvellous contrivances which nature has adopted for the surety of rest to the different organs of the body when in health, seemingly as if it were the one great object which she had in view in the peculiarities of their formation; secondly, to depict the natural promptings to the effectuation of it, instinctively suggested, on the occurrence of accident or disease; and thirdly, to shadow forth the appliances for its attainment, which an accurate anatomical and physiological acquaintance with the structure and endowments of every organ and limb will whisper to the mind earnestly intent upon the employment of rest for their relief when in a state of disease or derangement. So also, for the purpose of impressing upon you "that every pain has its distinct and pregnant signification," if we will be at the pains to interpret it, at any rate to the extent of our present knowledge, I have striven to unravel and render patent, by the agency of a more precise nervous anatomy, the meaning of many pains which have been so often termed "obscure" or anomalous; and I have ventured to suggest that there is no field open to the future inquirer from the cultivation of which he will reap a reward richer in benefit to his race and his profession, than from the persevering attempt to explain the purport and true significance of the manifold pains by which nature admonishes us of hidden and otherwise imperceptible evils. From the pain of the conjunctiva on the intrusion of a particle of dust, and the closure of the eyelid for the procuration of rest, up to the most formidable diseases with which we have to deal, pain, the monitor, and rest, the cure, are, I am convinced, starting-points for contemplation which should be ever present to the mind of the surgeon in reference to his treatment. I hope, Sir, that I have not dogmatised or spoken presumptuously; because I feel that I have, at most, advanced but one short step towards the object of every scientific surgeon: which object was doubtless present to the mind of Dr. Darwin when writing the preface to his Zoonomia, in which he says—"A theory founded on nature, that should bind together the scattered facts of medical knowledge and converge into one point of view the laws of organic life, would thus on many accounts contribute to the interests of society. It would capacitate men of moderate abilities to practise the art of healing with real advantage to the public; it would enable every man of literary attainments to distinguish the genuine disciples of medicine from those of boastful effrontery or of wily address; and would teach mankind in some important situations the knowledge of themselves." I may also adopt his quotation from Cicero, changed into the past tense, because it expresses so exactly what I feel:—"Hæc, ut potui, explicavi: nec tamen, ut Pythius Apollo, certa ut sint, et fixa quæ dixi; sed, ut homunculus unus ex multis, probiliora, conjectura sequens."

ON THE MEDICINAL USE OF ARSENICATED MINERAL WATERS,

WITH SPECIAL REFERENCE TO THAT OF WHITBECK.

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THE last number of the *Edinburgh Philosophical Journal* contains a paper by Dr. John Davy "On the question, Is Oxide of Arsenic, long used in a very small quantity, injurious to Man?" founded chiefly on the facts observed in reference to the arsenical water of Whitbeck, in Cumberland. Having had the pleasure of accompanying Dr. Davy in one of his visits to this stream, and being well acquainted with the district, I am induced to submit to the profession another question which has often presented itself to my mind—namely, *whether a natural combination of arsenic, such as that occurring at Whitbeck, will not in many cases be found a more efficacious therapeutic agent than any artificial solution of arsenical compounds?*

While fully admitting that the whole subject of the physiological action and medicinal employment of this powerful substance requires careful and extended investigation, there cannot, I think, be any doubt that in many chronic intractable diseases arsenic is one of the most potent remedies at our command. All writers on diseases of the skin bear concurrent testimony to its value in the treatment of lepra, eczema, and other still more loathsome forms of cutaneous disease, and one in particular lauds its "almost omnipotent influence" over the non-syphilitic forms of the malady, ascribing its occasional failure to *the exhibition of the remedy in too large doses, and at intervals too distant.*

Mr. Erasmus Wilson, in treating of lepra, says that he places the greatest reliance on arsenical preparations; but, in ordering the artificial solutions of this metal, admits the necessity of explaining to the patient the symptoms which call for the suspension or omission of the medicine, and alludes to the precautions requisite to guard against irritation of the stomach by its ingestion. And in the most recent contribution on this subject, the lectures of Dr. M'Call Anderson, the same homage is paid to the superior efficacy of arsenic in the treatment of eczema. As regards this class of complaints, I believe that the experience of most practitioners is to the same effect. But there is another very extensive group of disorders in which arsenic has been very little employed, although it combines in itself the two therapeutic actions most essential to the patient's recovery—namely, an alterative and a tonic effect. I allude to those numerous cases in which there is a tendency to cachexia or dyscrasis accompanying, and possibly dependent on, a congested, torpid state of the liver and portal venous system; and one of the most obstinate and distressing varieties of this disorder is that in which mental depression, ranging from slight hypochondriasis to confirmed melancholia, accompanies the bodily disease, many instances of which have fallen under my own notice. These patients are at present often sent to some of the sulphuretted mineral waters, and derive a certain amount of benefit from their use. But I believe that arsenical waters given under the same conditions would be infinitely more effectual, the eliminative and alterative effect exercised being much greater in the one case than in the other, to say nothing of the specific action of arsenic upon the nervous system.

In brief, then, I submit that in these and many other diseases where the administration of arsenic is indicated, that remedy may be most safely, effectually, and pleasantly given

by the internal and external use of a naturally arsenicated water.

The greater *safety* would result from the excessive and constant dilution of the medicinal substance by pure water, thus preventing any irritating or injurious effect upon the system. This is distinctly proved by the fact of the daily and habitual imbibition of the Whitbeck water by the inhabitants of that village, as detailed by Dr. Davy.

The greater *efficacy* of the natural over any artificial solution of arsenic must be influenced by two chief circumstances: 1st, the adjuvants constituted by the pure air, delightful scenery, proximity to the sea, and the complete change of mental and bodily associations, involved in a visit to a district like that of Whitbeck; and 2nd, the peculiar state of combination in which the chief remedial substance exists in this particular water. And on this point I may be allowed to quote, verbatim, the remarks of Dr. Davy and Mr. Church, premising that the fact of the arsenical impregnation of the Whitbeck water was determined some years back by Mr. Zenner, analytical chemist, of Newcastle, and was then understood to be the necessary effect of the existence in this mountain of large masses of arsenical pyrites (mispickel).

Dr. Davy thus describes the water of Whitbeck:—"It had the general character of the mountain streams of the Lake District, was perfectly clear and colourless, and tasteless. Of the several specimens obtained I found the specific gravity the same, and the same as that of distilled or rain water. When evaporated to dryness the residue was very small, a pint yielding about ·25 of a grain; and, from the different specimens tried, not varying more than one-tenth of a grain. In each instance this residue was found to consist chiefly of common salt; it tasted of this salt, and in solution was copiously precipitated by nitrate of silver. Mixed with the common salt was a little magnesia and lime, both probably in combination with sulphuric acid, as sulphate of lime and of magnesia, the presence of the acid being denoted by nitrate of barytes; a trace, too, of oxide of arsenic was detected in each, and, it may be inferred, in combination with potash, a trace of which was also obtained. The arsenic was detected not only by the test of the ammoniaco-nitrate of silver, but also by reduction to its metallic state by sublimation after mixture with ferrocyanide of potassium. Of the several specimens of water tried, that procured in October, when the stream was about its ordinary size, afforded a somewhat stronger trace of the metal than either the earlier or the later: the one in August, 1861, taken when the stream was swollen after rain; the other in January, 1862, during a frost of several days' duration, when probably the water was frozen at its sources—the stream then being lower than common. In noticing, however, the later, I should except the last—that taken in August last, when the stream was of about its average volume, and the indications of arsenic nearly the same as those of October. In the instance that the trace was strongest, judging from comparative experiments with oxide of arsenic—experiments of reduction by sublimation,—the quantity of oxide contained in the pint was only about ·008 grain, or ·064 grain to the gallon."

Mr. Church says: "The reaction of the water as it issues from the earth was faintly but unmistakably alkaline; on testing the water after ebullition the effect was more decided. The water from many other sources in the neighbourhood of Whitbeck, where decomposing granite is of common occurrence, has an alkaline reaction. The water, on examination, gave distinct indications of the presence of arsenic. This element, which here probably exists as an alkaline arsenite, occurs, not as a mere trace, but in determinate quantity. I have satisfied myself that in some seasons of the year the quantity present approaches a good fraction of a grain of arsenic (metallic) in each gallon of water. The arsenical water is *habitually used for every purpose* by the inhabitants of the little village of Whitbeck."*

From these analyses it will be seen that the arsenic exists in the very same form as that in Fowler's solution—namely, as arsenite of potass; and from the circumstance of common salt being also present, I have no doubt that a minute quantity of iodine is likewise contained in it. I may add, in reference to this point, that the sea is only a mile distant from the base of Black Combe, the mountain from which this stream descends.

Another great medicinal advantage offered by this mineral water is that it may be employed in the form of baths. For proof that arsenic, especially when in solution, is capable of being absorbed through the unbroken skin, I may refer to the well-known and justly celebrated works of Dr. Alfred Taylor; and on the same authority, confirmed by other testimony, it may be stated that this substance does not accumulate in the system. Continued doses of the mineral water of Whitbeck may therefore be given without any fear of poisonous symptoms suddenly manifesting themselves. In fact, the chief beneficial effects of arsenic probably result from the greater activity induced by it in all the eliminating organs of the body, by which retained secretions and other noxious matters are discharged, and a more healthy action of the depurating tissues induced.

Of the general salubrity of the district now under consideration, and of its many agreeable features as a place of resort for invalids, I can speak in the highest terms, and from personal experience, having for the last seven years visited it annually as a pleasant and salutary change from Newcastle. It is easy of access from all parts of the kingdom. There are within a short distance, especially in Whitehaven, several medical practitioners of high character and great ability; and were a demand to arise for increased accommodation for strangers consequent on the use of the Whitbeck water as a remedial agent, there is every reason to think that the public-spirited nobleman who is the chief landed proprietor in that neighbourhood, and to whom the country is indebted for that beautiful part of England having been rendered more accessible, would afford all reasonable facilities.

I shall be glad if these few remarks serve to draw attention to the medicinal value of this and similar mineral waters, and need scarcely say that it will afford me much pleasure to supply to members of the profession any additional information in my power. For further particulars respecting the Whitbeck water, I may also refer to Dr. Davy's paper; and, in leaving this subject for the present, I may perhaps be allowed to congratulate my fellow-practitioners on the continued presence amongst us of this distinguished philosopher. The veterans of science are not numerous in this country; and assuredly there is not one whose life has been marked by more unceasing industry than that of Dr. John Davy. From the time of his discovery of phosgene gas, half a century since, up to his very recent publications on Military Medicine and Physiology, every year has witnessed some fruits of his patient devotion to the study of Nature and to the cause of humanity; and it should be cheering and instructive to all of us to recognise in his latest contribution to medical science the same untiring energy and love of truth for its own sake which have been conspicuous throughout Dr. Davy's long and honourable career, and which have added a more varied lustre to a name that posterity will not willingly let die.

Welbeck-street, July, 1863.

* Chemical News, Aug. 23th 1860.

REPORT OF THE

CASUALTIES AT THE WIMBLEDON CAMP.

BY JOHN G. WESTMACOTT, M.D.,

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IT may perhaps interest such of the readers of THE LANCET as form the medical staff of our Volunteer Army to learn what casualties occurred during the encampment at Wimbledon (of twelve days), consisting of regulars, staff officers, volunteers, commissariat, armourers, commissioners, labourers, shoeblacks, &c., at one time numbering about a thousand. Although the fourth year of the meeting of the National Rifle Association, this is the first that any medical officer has been required to do day and night duty,—the camp having extended from year to year, till it has now become of some magnitude, and completely organized. The second year I performed the day duty *solus*. Last year I attended every morning until a surgeon for the day arrived—one from certain of the Volunteer corps who tendered their services. This year it was thought advisable to appoint one regularly to the Association, and I accepted the appointment. The continued fine state of the weather during the whole time will no doubt account for the comparatively healthy condition of the camp, and, barring the accidents that happened, the illnesses were not of any great moment. Thirty-four cases in all occurred which required treatment. The most serious were the accidents which happened the first two or three days—the worst, that of Michael Fagan (School of Musketry), who lost his right eye from a bullet splash off the

target. I rode over to the Guards' camp very shortly after the accident took place, and advised the poor fellow to be removed at once to the Guards' hospital, where he was placed under the care of Surgeon-Major Wyatt, who subsequently performed an operation, but without restoring the sight. I considered that I was not justified in keeping the man in the camp and searching for the piece of lead (the anterior chamber being filled with blood, and the iris &c. wounded), and then sending him up to town in a more dangerous condition than before meddling with the eye; I therefore simply directed cold water with lint to be kept constantly applied till his arrival at the hospital.

The list of the other cases is as follows:—Private William Bailey, 2nd Batt. Coldstream Guards, wounded in right shoulder, breast, and thigh by a bullet splash off the target; Private Alfred Smith, 1st Batt. Coldstream Guards, wounded in right groin and thigh from the same cause; Private James Bilham, 1st Batt. Coldstream Guards, wounded in left forearm from the same cause; Private Frank Davis, 1st Batt. Scots Fusiliers, wounded in right forearm and cheek from same cause; John Irvine, musketry instructor, 27th Staffordshire, wounded in right thumb from same cause. Isaac Thomas, corporal, 3rd Lancashire, had his right thumb struck by the nipple of the rifle breaking. J. Ward, private, 6th East York, had his shoulder much swollen and bruised from the rifle recoiling. Mr. Steward, optician, ran the spike of a telescope stand into the top of his left foot. I extracted a piece of glass from the left thumb of Thomas Meggy, gunner, Hon. Artillery Company; it had been embedded for three years. C. S. Smith, 5th Leicestershire, had his shoulder and wrist much bruised from the rifle recoiling; and O. Haw, colour sergeant, 7th Sussex, had his finger badly cut by the lock of his rifle. These are all the accidents I could hear of, and all that were treated by me. The subjects of them got perfectly well before the camp broke up.

The remaining cases were—diarrhœa, 7; retention of urine, 2; relaxed sore-throat, 3; ophthalmia, 2; erysipelas of hand, 1; effusion in knee, 2; catarrh, 1; ulcerated tongue, 1; headache with fainting and debility (from the heat), 4. With the exception of the two knee cases, which improved, all the rest became convalescent.

On the evening of the day of the review (July 18th), my duty being with my own corps (London Scottish), Surgeon Wakley kindly offered me an assistant in my tent, with an additional supply of instruments &c., which happily were not required. Some of the diarrhœa cases were thought to proceed from the water, but I rather think that the ingredients added to the water, together with the damp at night after the scorching day, were the main causes. On the whole, the camp may be reported as tolerably healthy; and I have to thank the Association for their kind consideration in furnishing my tent comfortably, and providing necessary appliances in cases of need.

July, 1863.

ON THE

TREATMENT OF MALARIOUS FEVER BY THE SUBCUTANEOUS INJECTION OF QUININE.

BY W. J. MOORE, L.R.C.P. Ed.,

BOMBAY MEDICAL SERVICE.

SINCE the year 1858, when Dr. Wood brought forward the hypodermic method of administering morphia, the plan has been extensively tried. Moreover, the results following the injection of morphia into the subcutaneous areolar tissue have, on the whole, been satisfactory, and the use of the alkaloid in this manner has now become an established practice in various obstinate neuralgic disorders. Other agents, as atropia, have also been used hypodermically with varied success, and I have latterly employed a strong solution of quinine for the cure of intermittent and remittent fever by the method of subcutaneous injection.

The success which has attended the practice renders me desirous of calling attention to this novel mode of using quinine. I have so employed the remedy in upwards of thirty cases of intermittent fever, and in several cases of remittent, and with almost invariable success, the former class seldom requiring a second application, the latter generally subsiding after the fifth or sixth injection. Since the period I commenced to use quinine in this manner I have been surprised and pleased to find in one of the medical periodicals that the same plan has been pursued by Dr. Chasseaud, of Smyrna, who reports 150 cures, and especially recommends the system in fever complicated with gastric symptoms, when the exhibition of quinine by the mouth is often "inefficient, difficult, and hazardous."

I use the strongest solution of quinine which can be prepared—viz., thirty grains of quinine, eight or ten drops of dilute sulphuric acid, and half an ounce of water. Of this I inject from half a drachm to a drachm, the former quantity containing some four grains of the active agent. With the exception of a little sulphate of soda if the bowels are confined, I use no other remedies whatever in uncomplicated cases of any type of malarious fever. When the spleen is enlarged, or if a leucocythemic condition is present, I prescribe, as an additional curative agent, one or other of the preparations of iron—very frequently the citrate of iron and quinine.

I generally inject beneath the skin over the outer belly of the triceps extensor muscle, and sometimes over the deltoid. I have, however, used the syringe with equal effect on the thigh and calf, and in cases of enlarged spleen have thought the action of the remedy increased by injecting over that organ. I use a small glass syringe with the screw action, and furnished with a sharp silver point some half an inch in length. The latter is introduced beneath the integument half an inch or less, and the pain is not greater than the prick of a pin. Indeed patients have frequently declared they would rather submit to this process than taste the bitter of quinine. I have never seen the slightest inflammation or irritation follow the operation except in two instances. In one of these this result was due to the instruments employed—namely, a small trocar and common glass syringe; in the other, to quinine in *suspension* being used instead of in *solution*. Indeed, I have reason to think that quinine in suspension is very irritating to the tissues, and this is what physiology would lead us to expect, as it is certain that when a fluid material is introduced into the areolar structure, it will be absorbed more directly than any solid mass could be. Therefore, to avoid irritation of the parts, and, also, to prevent "choking" of the syringe (and which instrument was procured from England), I insist upon a perfectly clear solution of the alkaloid.

The best time to inject is shortly before the expected cold fit, but it may be done during the first stage with the effect of lessening and sometimes stopping the whole paroxysm. Latterly when a patient presents at the morning visit, who expects an accession during the day, I have injected at the time, and nearly invariably the fever has stopped.

In cases of remittent I have endeavoured to inject during the remission, but do not wait for this period. In severe cases the injection should be repeated at intervals of six or eight hours.

I believe four or five grains of quinine injected beneath the integument are equal in their effects to five or six times that amount taken into the stomach; also, that the effects are more certain than when taken in the ordinary method; and, also, that relapsing attacks are less common than when the remedy is administered by the mouth.

Bombay, 1863.

SHORT NOTES OF A

FATAL CASE OF POISONING BY OPIUM.

WITH REMARKS.

BY RICHARD C. ELLIS, L.R.C.P. Edin.

THE patient was a stout and healthy little girl four years and a half old. Her mother, thinking the child required some aperient medicine, went for that purpose to a small general shop kept by a female in the suburbs of this town, on the 7th of August, 1862, and asked for half an ounce of syrup of rhubarb; but she got, in mistake, half an ounce of laudanum, the whole of which was given to the child on the same day at ten o'clock A.M. In fifteen minutes afterwards she looked heavy, felt drowsy, and asked to be put to bed; but, as she was accustomed to sleep in the forenoon occasionally, no notice was taken of this circumstance by the mother, who, in the meantime, busied herself with her household duties, and paid little attention to the sleeping child until two o'clock P.M.,

when she was alarmed by the pallor and ghastly expression of her face, and found it impossible to arouse her; and then, for the first time, the fearful nature of the mistake was discovered, and medical aid was sought. The child was found in a state of profound coma, with dilated and insensible pupils; the pulse was very feeble; the breathing irregular, with stertor, while frothy mucus was ejected from the nares; the limbs were relaxed, and the body felt quite flaccid. The case was evidently hopeless; nevertheless, every exertion was made by Messrs. Gell, Scott, and myself to counteract the effect of the poison by stimulating emetics, sinapisms, terebinthinate enemata, warm baths, with galvanism, cold affusion, &c. The child never rallied from this state of collapse, but died at half-past six P.M. the same day, or in eight hours and a half after taking the poison.

Remarks.—This case, while presenting a sad commentary upon the evil effects of *free trade* in poisons, is interesting in a toxicological point of view as illustrating the effects of a very large dose of opium upon the young subject. For, in many of the recorded cases of poisoning by this drug, some doubts exist as to the exact quantity which had been taken and the exact period which had elapsed before its physiological effects were apparent. Dr. Taylor states "that the symptoms commence in from half an hour to an hour; but that sometimes they come on in a few minutes, especially in young children." In a case reported by Dr. Skae, "the individual was found totally insensible in fifteen minutes." That in a child of four years and a half old a dose of laudanum equivalent in amount to twelve grains of solid opium should produce poisonous symptoms in fifteen minutes is what we might expect from the known influence of this drug upon young children; and when we reflect that in the present case absorption had been allowed to progress unchecked for a period of four hours, it is surprising that the fatal termination had been protracted for eight hours and a half.

Blade-street, Newcastle-on-Tyne, July, 1863.

A Mirror
OF THE PRACTICE OF
MEDICINE AND SURGERY
IN THE
HOSPITALS OF LONDON.

Nulla autem est alia pro certo noscendi via, nisi quam plurimas et morborum, et dissectionum historias, tum aliorum, tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

ST. BARTHOLOMEW'S HOSPITAL.

INJURY OF THE SUPERIOR MAXILLARY BONE; OPERATION; BAD RESULT.

(Under the care of Mr. LAWRENCE.)

SUSAN A——, aged seventeen, was admitted in June last. Twelve months previously she had sustained a slight blow on the face from a slender switch or stick. On admission there was an open wound on the right cheek. Soon after it was observed that the right eye and eyebrow were raised upwards above the level of the other eye, but the sight was unaffected. As there was a prominence at the upper part of the cheek, it was concluded that some growth involved the upper maxillary bone.

Under these circumstances, on the 27th of June, the girl having been placed under chloroform, Mr. Lawrence performed the following operation:—He made an incision from the inner angle of the right eye down to the nostril, thence to the nasal septum, and through the centre of the upper lip into the mouth; he then made another incision from the malar bone to the angle of the mouth: the flap of integument thus formed was raised, and the upper maxilla completely exposed. The malar bone was now broken through by the cutting pliers, the bone being somewhat damaged. An effort was then unsuccessfully made to saw through the malar bone above the alveolar border. Some small portions of growth were scraped away from the floor of the orbit; the integument was then replaced, the wounds were closed with silver sutures, and the girl sent to bed.

The deformity resulting from this operation was unusually great; for, independently of the incisions, there was the original wound running nearly across the flap from the middle of the lower eyelid outwards. The face altogether had a terribly gashed appearance, justifiable, it would appear, only for the removal of the whole or the greater part of the upper jaw. As it is, the disease seems to be in the same state as it was anterior to the operation. The wound had entirely cicatrized by the 25th of July, but the injured bone still suppurating caused the cheek to become bagged until the pus was squeezed out. The permanent disfigurement is something terrible.

The cheek is now (July 29th) greatly swollen and inflamed, and the bone is suppurating, matter being freely discharged from three or four sinuses. The bone is either becoming necrosed, or the disease is extending. The girl is feverish, and confined to bed.

At the time of the operation Mr. Lawrence remarked to those who were present "that he had removed as much of the tumour as he could from the floor of the orbit, and that he could not exactly state its nature." It seemed to be a sort of soft fibrous-looking substance, as far as the naked-eye appearances went—at least so it struck those who witnessed it.

This case is suggestive of many important inquiries, but we refrain from comment. Mr. Lawrence may possibly be in a position to explain the *rationale* of his operation. We confess we are at a loss to understand it. The proceeding is much talked of in the hospital, and will probably receive attention from the treasurer and governors. We wait with proper reserve for the result of that inquiry.

GUY'S HOSPITAL.

THREE CASES OF THORACIC ANEURISM, ILLUSTRATING DIFFERENT MODES OF TERMINATION.

(Under the care of Dr. BARLOW and Dr. HABERSHON.)

THE five cases of aneurism of the thoracic aorta which are now detailed illustrate in a striking manner some of the modes in which this dire affection terminates. In the first and last, sudden death ensued from rupture of the sac into the œsophagus in the former, and into the trachea in the latter, whilst in the third it occurred from its bursting into the pleura. In the second case, death was slow, and the suffering most severe from the great erosion of the vertebræ, which had been worn away almost to the spinal cord. The vertebræ were also eroded in the first case, and the sternum in the third. In the fourth case (Dr. Pitman's), the large aneurism produced paroxysms of dyspnœa from pressure upon the trachea and respiratory nerves, and in one of these the patient expired. Wherever the tumours pressed upon the trachea or bronchial tubes, there was the peculiar characteristic hoarseness and laryngeal voice—a symptom of significance when conjoined with others. The left bronchus in the first case and the right bronchus in the third were flattened; in the former to some extent.

The notes of the three following cases we have extracted from the post-mortem records kept by Dr. Wilks:—

CASE 1. *Aneurism of descending portion of Thoracic Aorta.*—John J——, aged forty five, was admitted March 4th, 1863, under Dr. Barlow. He had been a sailor, and came in with cough and difficulty of breathing. There was slight dulness over the left apex, and the air entered the left lung with difficulty. He was also hoarse, as if from a laryngeal affection. No bruit could be heard; but it was suspected that he had an aneurism. On the 17th of April he brought up a large quantity of blood, and soon after expired.

Autopsy, sixteen hours after death.—An opening was found in the œsophagus, admitting a large probe, the mucous membrane around being thinned and much blackened. On lifting up the left lung, an aneurismal pouch could be seen at the upper part

of the chest; its walls very thin, as if it would soon have burst into the pleura. This lung was only partially inflated with air; large portions of it were of a dark colour, and collapsed, and evidently had not been used for some time. The ascending aorta and arch were covered with atheroma, but not much diseased. Just as the aorta turned downward, it became dilated on all sides, making a sac the size of the fist. The blood had passed through this to the lower part, which was equally well defined with the upper, the remaining portion of the thoracic aorta being of natural size, and tolerably healthy. The margin thus above and below was well defined; it occupied the left side of the second, third, fourth, and fifth vertebræ, which were eroded on the surface. The posterior wall of the aneurism was thus destroyed. The interior had had the serous surface perfect until lately, but it was not fissured. There was one long fissure having rounded edges, and which, passing through the internal and middle coats, had left nothing but the external. This was immediately opposite the œsophagus, and here it was that the blood had passed through. The opening was not direct, but valvular. The left bronchus passed immediately beneath the aneurism, and was much pressed upon. It was probable that the pneumogastric or recurrent laryngeal was involved, but this was not dissected out. The stomach and intestines were full of dark and liquid blood.

CASE 2. *Aneurism of the descending Thoracic Aorta.*—David G——, aged fifty-seven, was admitted Dec. 31st, 1862, under the care of Dr. Barlow. On admission a bruit was heard over many parts of the chest, and in some places a double one, also at the epigastrium. Subsequently a pulsation could be felt in the epigastrium, and afterwards in the back, clearly indicating the existence of an aneurism there. This had been previously suspected from the intense and continuous pain which he suffered. Nothing relieved him. The lungs at last became involved, and he slowly died on the 24th of May, 1863.

Autopsy, twenty hours after death.—On removing the lungs, a large thoracic aneurism was seen in the descending thoracic aorta, and forming a large projection on either side of the spine. The lungs were adherent to the sac by recent lymph, and the adjacent pulmonary tissue was in an early stage of inflammation. Other parts of the lung and tubes were full of serum. The walls of the ascending aorta and arch were thickened and covered with atheroma. Just as the aorta turned to meet the spine, an aneurismal opening was seen at the back part of the vessel. This opening was the size of a florin. From it proceeded a large aneurismal sac, as large as a cocoa-nut, projecting on each side of the spine, and passing down behind the aorta nearly to the diaphragm. On the right side the sac was firm, being filled with fibrin; on the left side it was flaccid, containing recent blood. The posterior wall had long been destroyed, and thus, when the sac was removed, the vertebræ were seen eroded, and also the heads of the ribs. The upper dorsal were almost completely destroyed, and the spinal canal was nearly reached. The abdominal aorta and thoracic below the aneurism were thickened and irregular, but not aneurismal.

CASE 3. *Aneurism of ascending Aorta.*—Henry H——, aged forty-nine, was admitted April 29th, 1863, under the care of Dr. Habershon. The patient was a waterman. On admission a large pulsating tumour was found over the sternum towards the right side. The pain was relieved by applications, and he was about to leave the hospital, when he died suddenly in the night of June 24th.

Autopsy, thirty-four hours after death.—A large aneurism had formed at the upper part of the ascending aorta by a longitudinal opening nearly two inches long. The edges of this were round, and passed into the sac, which bulged forwards to the sternum, and on each side, especially the right, forming a large sac the size of the fist. The walls of this sac were thin in parts, and covered with fibrin, especially on the right side, and were in contact with the lung. On this side the right bronchus was much flattened, so that the finger could not be passed into it. The aneurism reached as high as the arch, and below to the heart, where in one spot it was so thin that a rupture into the pericardium would soon have occurred; the aorta below was tolerably healthy. The front part of the aneurism was adherent to the sternum, and in some places the walls had become almost destroyed, so that on removing the sternum the front wall of the aneurism was cut off; the bone was slightly eroded, as was the origin of the upper ribs on the right side. The aneurismal sac was closely adherent to the right lung, and near their junction above a rent had taken place; through this opening blood had escaped into the chest, which was filled with several pounds of clot and serum; the lung itself was collapsed. The left lung was much condensed at its base, or indurated by inflamed product; it was very tough, white, dense, and quite airless; in its midst were several dilated tubes, filled with a purulent mucus; it was closely adherent to the diaphragm, and the part had been formerly the subject of pleuro-pneumonia. Both kidneys contained large cysts, and in one of these were two or three calculi.

ST. GEORGE'S HOSPITAL.

LARGE ANEURISM OF THE ARCH OF THE AORTA, WITH OLD-STANDING BRONCHITIS; FLATTENING OF THE TRACHEA; FATAL DYSPNŒA.

(Under the care of Dr. PITMAN.)

FOR the notes of this case we are indebted to Dr. Dickinson, curator of the museum.

Ann P——, aged forty-nine, was admitted June 16th, 1863. She had been for years subject to winter cough, but had never been so distressed for breath as during the last six weeks. On her admission loud râles were heard on both sides of the chest, more especially on the right side. The pulse was 96, and nothing remarkable was noted about it. The condition of the heart and large vessels attracted no attention. She was ordered squills, senega, and carbonate of ammonia. On the 22nd she pronounced herself easier, and the respiration was less noisy; but her cough was very troublesome, and kept her awake at night. She complained at times of a choking sensation, which she attributed to phlegm that she could not raise. Her sufferings soon became more acute, and she spoke of passing "fearful nights." Another expectorant mixture was ordered, containing ipecacuanha, and this occasioned a free discharge of muco-purulent secretion from the lungs. She still had alarming attacks of dyspnœa, from which she was restored by ether and brandy and sinapisms. Early on the morning of the 29th a very severe attack occurred; and when seen at midday the extremities were cold, and the pulse at the left wrist could not be felt. She was anxious and distressed. Another paroxysm of dyspnœa came on later in the day, from which she never rallied, and at eleven P.M. she died.

Autopsy, fourteen hours after death.—The body was much emaciated. The left pleural cavity was almost obliterated by old adhesions. The lungs were healthy. The bronchial tubes were reddened and thickened, their lining membrane being bathed in purulent fluid. An aneurismal sac, as large as a small cocoa nut, was found at the highest part of the thoracic cavity. It belonged to the arch of the aorta, beginning immediately beyond the origin of the innominate. The left subclavian started from within the sac, and was occupied for several inches by a cylinder of fibrin, which completely stopped it up. The cavity was filled by a quantity of laminated fibrin. The tumour had extended chiefly in the backward direction, but the vertebræ were not in any way affected. The trachea just above the bifurcation was flattened by the pressure of the aneurism. The kidneys were slightly roughened on their surfaces. All the abdominal viscera, including the arterial vessels, were healthy.

WESTMINSTER HOSPITAL.

ANEURISM OF THE ARCH OF THE AORTA; DEATH FROM HÆMORRHAGE INTO THE TRACHEA.

(Under the care of Dr. BASHAM.)

THE following is an abstract of the case as reported in the hospital books:—

Henry A——, aged forty-three, a metal worker, was admitted three years ago with thoracic aneurism. There was no positive history as to the origin of his disease, but he had been accustomed to lift heavy weights; and a few months before admission, after exerting himself a good deal in this way, he suffered from what he thought was a severe "cold in the throat;" since which time he had suffered from dyspnœa, and had noticed a wheezing noise in his throat. At the time of admission he had occasional sharp pain in the intra-scapular region, working round to the right nipple and along the right arm, with numbness of three fingers of the right hand when exposed to cold. The dyspnœa was severe, often increased by eating, and vomiting frequently followed. There was no murmur over the apex of the heart, but a very decided one over the aortic valves. From two inches to the right of the left nipple and one above

it, a loud blowing sound was heard, which took a decided course to the right, and was loudest under the right clavicle and along the right carotid artery, quite as high as the thyroid cartilage. The murmur was also to be heard over the left side of the chest, but less clear than on the right. In the right infra-clavicular region a decided prominence was noticed, and here pulsation was sensible to the touch.

The symptoms were not materially altered during the remainder of the patient's life. The dyspnœa, cough, and pain continued to increase, no remedies affording more than temporary relief. Finally, after ten weeks' stay in the hospital, he was attacked with rather copious hæmoptysis, and died exhausted.

At the post-mortem examination, made forty-one hours afterwards, a very large aneurism was found springing from the arch of the aorta, stretching the pneumogastric nerve of the right side, and pressing upon the trachea, to which it was so intimately connected that ulceration had ensued, which permitted of the escape of the blood into it. The aneurism extended considerably to the right side of the upper part of the chest.

UNIVERSITY COLLEGE HOSPITAL.

CASE OF COPPER COLIC; THIRD ATTACK; PURPLE LINE ROUND THE GUMS; RECOVERY.

(Under the care of Dr. HARLEY.)

As it is only a few years since cases of copper colic attracted the attention of medical men, and as they are still, comparatively speaking, rare, the following instance will be read with interest. For the notes of the case we are indebted to Mr. Joseph Thompson.

Charles S——, aged eighteen, a copper-plate printer, was admitted on the 3rd of July, complaining of severe colic. He stated that while sitting reading on the previous evening he was suddenly attacked with acute pain in the abdomen; he felt "just as if some one had struck him violently in the belly." The pain, which he described as "a dead pain, increasing every now and then," lasted fourteen hours. The pain is not relieved on pressure; on the contrary, it is increased by it. He has no diarrhœa, nor is he costive; the bowels are moved once daily. He says that he feels very sick. Has a peculiar sallow, almost clay-coloured complexion, and an anxious expression. The lips are livid, and the eyes sunken. The tongue is tolerably clean, but round the gums there is the characteristic purple line of copper poisoning. The line, as Dr. Harley remarked, has not the slate-grey hue of lead, nor is there any constipation as in lead colic.

On inquiring into his history it appeared that he had followed the occupation of a copper-plate printer for the last two years. He cleans the plates with a leather, and latterly he has had to clean some old copper-plates which had lain by for a long time. While cleaning them he found a "good deal of greenish dust rose like verdigris," which he had to inhale. It also appeared that he had had two similar attacks before this, the first in October, which lasted a fortnight; the other, a month ago, which lasted only three days.

In order to induce the elimination of the poison from the system as rapidly as possible, the following medicine was ordered to be taken three times a day:—Spirits of nitric ether, a drachm; dilute sulphuric acid, ten minims; sulphate of magnesia, a drachm; laudanum, six minims; in camphor mixture.

July 7th.—The patient felt much better. He had no more colic, and only a little pain in the stomach when the bowels were moved. The bowels have been opened three times a day since he began the medicine, but he has not been purged. The face is not so sallow nor so anxious-looking as it was. The purple line is still well marked. The mixture to be continued.

10th.—Is looking still better. All pain has now entirely ceased. The line on the gums is still present, but is less marked. He says he feels much better now, and has only a slight weakness in the abdomen.

14th.—Says that he feels perfectly well. Line on gums still distinct. Dismissed cured.

WEST LONDON HOSPITAL.

FISSURE OF THE ANUS AND RECTUM, TWICE TREATED BY CAUSTICS, TWICE BY OPERATION.

(Under the care of Mr. TEEVAN.)

G. B——, a thin, delicate-looking man, aged twenty-five, first came under Mr. Teevan's care at St. George's and St. James's Dispensary in March, 1862. He then stated that he worked in a pianoforte manufactory, and had enjoyed moderately good health till about a year ago, when he noticed occasional pains in the lower part of the bowel after defecation. These pains gradually increased in frequency and severity till he was forced to give up work, and became an in-patient at one of the metropolitan hospitals. He was there told that he was suffering from a fissure in the anus, and was treated with an application of the nitric acid, followed by the occasional use of the nitrate of silver. After a residence of two months in the hospital, he was discharged cured. He now resumed his occupation, and remained free from pain for about two months, when he again began to suffer from the former symptoms, and applied to Mr. Teevan for advice. He then stated that he suffered from the pain nearly every day for about six or eight hours; that it sometimes came on shortly after defecation; but at other times about evening, keeping him awake most of the night. His sensation of pain was "as if some one were boring a hole through the lower part of his back-bone," and he always described it as "on the bone." He also stated that he never suffered pain during the act of defecation, and that he had not observed anything particular about his fæces, except that they were sometimes small, and streaked with blood. There was no ascertainable evidence of phthisis or cancer either in himself or his family. The introduction of the finger into his rectum caused great pain, but this ceased when the finger was held free and motionless in the gut. On pressing the rectum circularly, no pain was felt till the coccyx was pressed, when he flinched and cried out through the pain, and it was here that the finger detected a soft furrow, bounded on either side by an indurated edge. The introduction of the speculum caused even greater pain, and exhibited a dark granular slit at the upper and posterior part of the anus, and running into the rectum. This fissure was about two inches long by half an inch wide, with white cord-like edges. He was treated by the application of nitric acid freely to the part, and by the occasional use of the nitrate of silver, together with a liberal supply of tonics, porter, and soup. Under this treatment he greatly improved in health, lost his pain, and in about two months discontinued his attendance.

In October his pain gradually returned, and caused him again to seek advice. He was then transferred to the West London Hospital, and on Nov. 19th Mr. Teevan introduced a bistoury into the rectum, and divided the diseased structures longitudinally to the depth of about a quarter of an inch. This gave instant and perfect relief for three weeks, when the pain again returned.

On December 20th another incision was made through the structures, and the sphincter ani divided. This operation seemed to be quite successful; for he lost all pain, felt quite well, and returned to work.

Two months later he returned, saying that the pain had come on just as bad as ever. Mr. Quain now kindly examined him for Mr. Teevan, and advised him to be treated medically rather than surgically, as he considered there was incipient malignant disease in the part. After a trial of many kinds of suppositories of opium, alone and in combination with other remedies, it was found that the only suppository which gave him perfect relief was one composed of two grains of opium and ten grains of the extract of henbane. By using one of these whenever the pain comes on, he is enabled to continue at his work with perfect ease to himself. He states that he can rarely go longer than two days without using a suppository.

It is worthy of remark that one grain of the extract of belladonna, given per rectum, sufficed in this man to produce all the well-known symptoms of a large dose of the drug.

CRACKLING OF THE JOINTS IN A PREGNANT WOMAN.

(Under the care of Dr. GIBB.)

On former occasions we have noticed isolated instances where there was well-marked crackling in some of the joints. (See THE LANCET, vol. ii. 1860, p. 109.) Rheumatism or rheumatoid arthritis would appear to have much to do with the production of a state giving rise to this condition, but it may occur in other affections not necessarily rheumatic.

One of the most striking instances of this crackling which has come under our notice was admitted into the West London Hospital in the early part of January. The patient, Martha B——, aged twenty-seven, was enceinte with her fifth child, and was troubled with the most intolerable prurigo, to which it appeared she had been subject at each of her pregnancies. It was now more severe than on any former occasion, and she felt as if she could scratch herself incessantly to get rid of it.

She drew Dr. Gibb's attention to a crackling in her right and left knee-joints, much more noticeable in the former. On flexing and straightening the right knee, the crackling was not only felt to be very rough and grating, but it could be heard. There was some effusion also into this joint. The right elbow, wrist, and shoulder joints were similarly affected with crackling, but to a much milder extent.

The patient had the peculiar aspect of a person who has been long subject to chronic suffering from joint disease; yet on inquiry it was elicited that she had never been affected with rheumatism, although she had had pains in the joints. Her father is subject to arthritis, most probably rheumatoid; and it is more than likely that the diathesis has been inherited, and is thus manifested by an alteration in the condition of the synovial membrane, which has given rise to the sensation of crackling. There was no effusion into any other joint than the right knee, nor was any joint painful. She had palpitation of the heart, wholly functional, for there was no evidence of organic disease.

Besides other means, she was ordered a mixture containing the bicarbonate of potass (fifteen-grain doses), and small doses of tincture of iodine and iodide of potassium; and a liniment to rub over the right knee-joint. Under this treatment she visibly improved, and the crackling had greatly subsided when she was last examined.

Reviews and Notices of Books.

A General View of the Criminal Law of England. By JAMES FITZJAMES STEPHENS, M.A., Barrister-at-Law. 8vo, pp. 500. Macmillan and Co.

MR. STEPHENS has written a work of rare merit, which we commend to the study of those who desire to become familiar with the principles and operation of our criminal legislation. Its perusal cannot fail to impress each reader with the enlarged and philosophic spirit which its author exhibits in his discussion of questions involving on the one hand personal liability, and on the other public duty. Mr. Stephens desires to give "a general view of the criminal law of England." This his volume accomplishes in a manner which, while avoiding details necessary in a book of more reference, yet affords ample illustration of the practical working of our criminal procedure. Its author's familiarity with the jurisprudence of other countries enables him to develop the merits of our English system, and, by comparing it with foreign codes, to demonstrate its excellence or particularize its defects. As a thoughtful disquisition of those great principles the aggregate of which constitutes our criminal law, Mr. Stephens's work cannot be too highly spoken of. It begins with an historical sketch of the various changes in our system of procedure from the earliest periods to which records extend, and traces the several steps by which experience approached to our present position. Examining first the general principles on which the subject depends, it then points out the particular institutions of our own law in relation to those general principles. The third chapter investigates the definition of crime, and examines the question of responsibility. Regarding intention and will as elements of action, and both as essential to normal voluntary motion, Mr. Stephens discusses those exceptional cases in which the want of coexistence of these separate elements, or their defective co-ordination, places the character of any special conduct without the category of criminal actions to which punishment ought to attach. Intention, will, and malice the law considers as essential to every crime. The absence of either of the first two will prevent any occurrence from being an action; the absence of the last, in its general or specific form, as the case may be, will prevent any action from being a crime. Arguing from these premises, Mr. Stephens proceeds to show that by rebutting the ordinary presumption of will, intention, or malice, crime is disproved. The plea of insanity rebuts the presumption of malice by proof that the person who did the act could not know that it was wrong, or could not help doing it.

Unlike the generality of legal writers, Mr. Stephens recognises the existence of those various forms of insanity to which medical experience testifies. The object of medical experience being to show that, whatever phase of disease was present, in consequence of such disease the mind of the accused was so disturbed that he did not know the act was wrong, or could not form a reasonable judgment on it, Mr. Stephens investigates the value that should be accorded to medical evidence. The application of the principle of non-responsibility being admitted, it is obvious that the special form of disease or conduct which originates the inquiry, is reduced to a question of medical experience, and the verdict of the jury thereby rendered dependent on the degree of importance which the jury may attach to the medical testimony. In speaking of the question of impulsive insanity, in reference to the recognition of which many high legal authorities have expressed doubts, Mr. Stephens observes:—

"It would be absurd to deny the possibility that such impulses may occur, or the fact that they have occurred and have been acted on. Instances are also given in which the impulse was felt and was resisted. The only question which the existence of such impulses can raise in the administration of criminal justice is, whether the particular impulse in question was irresistible as well as unresisted. If it were irresistible, the person accused is entitled to be acquitted, because the act was not voluntary and was not properly his act. If the impulse was resistible, the fact that it proceeded from disease is no excuse at all."

The wisdom of the existing law, which allows to every symptom of madness its full weight as evidence that the act committed was not a crime, but which leaves to a jury the determination of guilt implying responsibility, meets with Mr. Stephens's approval. He well observes:—

"If, notwithstanding the madness of the accused, he did commit a crime, it is impossible to suggest any reason why he should not be punished for it. The state of his mind might, no doubt, form a ground for a recommendation to mercy. But this is a question of discretion; it affords no reason why the case should be withdrawn from authorities by whom the discretion is exercised, as their least favourable critics must admit, with almost excessive humanity."

This is a question which has long engaged the attention of humanitarians, and constitutes one of the strongest arguments against the punishment of death. On the one hand, the advocates of its abolition declare that to hold a man responsible for crime where any measure of insanity exists is to aggravate the infliction of Providence by the injustice of man; while, on the other hand, those who argue that responsibility should attach to all conduct, unless there be a visible connexion between the act and mental condition, affirm that without such proof any crime might on this plea be excused. This difficult medico-legal problem the author discusses in a spirit singularly free from the bias of either party.

The vexed question of what tribunal is the most suitable for the determination of facts involving scientific subtleties receives impartial examination. The result of Mr. Stephens's careful review of the possible arguments in favour of a jury of experts, and of his contrast of our system of criminal procedure with that followed in other countries, is, that in the class of cases referred to, a jury composed as at present is more likely to arrive at a conclusion satisfactory to the public than either a jury of experts or a jury bound by the decision of experts. The system pursued in France, where the answers of experts, though not binding on the jury by law, are yet so in practice, Mr. Stephens is of opinion relieves the jury from the responsibility of the scientific elements of their verdict, inasmuch as no evidence of a scientific character is admitted except at the discretion of the court, which determines exclusively who shall and who shall not be allowed to give what are called *renseignements* in such cases. The jury are virtually told, for example, "You must take it as a matter of science that whenever a man takes into his system strychnine enough to poison him, it will be found after his death in such and such organs." Mr. Stephens urges three objections to the introduction of such a system into this country,

in which he affirms the object of our trials is, to satisfy, not the judge, but the jury. In the first place, he believes that it would be found practically impossible to prove the question to be left to the experts in such a manner that the answer would be of the slightest use; secondly, he conceives that every argument which is urged to show that there is a conflict in medical and scientific opinion proves that the dicta of experts cannot be taken as conclusive; and, thirdly, he is of opinion that a tribunal of experts would hardly ever decide on evidence, but almost always on their own private opinion of the subject matter to which the evidence applies. The object sought to be obtained by a jury of experts he believes might still be gained by allowing special juries to be struck in criminal as well as civil cases, though some arrangement would be necessary to secure the prisoner's right to challenge.

We would gladly, did space permit, follow the author through his learned and valuable work, and thus make our readers further acquainted with his opinions; we do better, however, in advising its perusal and study. The general scope of its contents may be inferred from the heads of the chapters, the fourth of which treats of the English definitions of particular crimes; the fifth, of criminal procedure in general, illustrated by a comparison of the English and French systems; the sixth, of the peculiarities of English criminal procedure; the seventh, of the principles of evidence in general; the eighth, of English rules of evidence; and the ninth, of English criminal legislation—the way in which the law is made. The volume concludes with detailed accounts of four English and three French criminal trials, intended to illustrate the practical operation of our own and the French systems.

We are satisfied that this work will worthily maintain the high reputation of its distinguished author.

HOW THE ADMIRALTY HAVE BURKED THE NAVAL MEDICAL WARRANT.

To the Editor of THE LANCET.

SIR,—Will you favour me with space in your columns to enlighten your readers on the doings of the Admiralty, and the degradation to which the surgeons of the navy have been subjected by recently issued circulars, virtually suppressing the rank, uniform, and other attendant privileges conferred by the Medical Warrant of 1859.

A calm seems to have pervaded the profession since the issue of that well-known document, under the impression that all its provisions were being fully carried out. It is now more than time, however, that this delusion were removed. The pay, certainly, was increased, because plain figures could not be controverted. But the pressure of necessity alone extorted the tardy compliance of the Board in regard to rank and uniform. Still their lordships did yield. All went on well, and executive prejudice against the new order of things was fast giving way. But no sooner were the wants of the service supplied by an adequate influx of young surgeons, than the Admiralty set about a work of cutting down the privileges confirmed by their predecessors in office, and subsequently by a circular of their own. And the cunning dexterity with which they did so is only equalled by the want of fairness and good faith made manifest. Surgeons had come to rank with commanders, and wear the same relative uniform. This was a terrible eyesore to the old sea lords, who forthwith decided that the exalted commanders should never be obscured by contact with the surgeons of their ships. So they issued a circular elevating the commanders one grade higher in military rank, thus leaving their equals, the surgeons, behind—in reality lowering them to their former inferior position. The same circular also forbade all below this new commander's rank to wear the embroidered peaks on their caps. Consequently, without any direct order, surgeons were obliged to strip off this the most prominent part of their uniform, and most distinctive of their rank. A more vexatious thrust from behind was never inflicted by superior authority on a class of professional gentlemen, whom it exposed to many an open taunt and silent sneer from their messmates.

The work of degradation, however, did not stop here. With wise caution, but steady purpose, a breathing space was allowed. And on the 25th of March last a memorandum suddenly came to light, directing all officers of the rank below lieutenants, masters, paymasters, and engineers, to wear the same number of stripes and width of lace as their superiors of the surgeon's grade. Thus, with a stroke of the pen, the Admiralty have blotted out entirely the last faint shadow of that "improved position," about which the profession has heard and believed so much. For their lordships well knew that, without a distinguishing uniform, the surgeon's naval rank would become a dead letter, and its attendant privileges be ignored by all on board.

The fact is now painfully patent to every naval surgeon, that his position has lapsed to precisely where it was before Sir John Pakington so generously and effectively took up the cause of the civil branches of the service. My purpose is to impress this on the profession, but especially to lay bare the indirect and underhand means by which the present Board has stultified her Majesty's Order in Council, and nullified its own circular of concessions, issued at a time of need for medical officers, and with every semblance of good faith.

Fearful of another storm of agitation, the term "medical officer" has never once been allowed to appear in any of the recent circulars. But the novel expedient has been adopted of legislating for the executive line, and elevating it in relative rank with the army, surprising commanders and lieutenants with rank and uniform they never dreamt of. And all this has been palpably done, that surgeons may, as a necessary sequence, be thrown back into their former inferior position.

It will be absurd now to talk of medical rank in the navy being equal to that in the army. Such is the case only with assistant-surgeons. Their position has been most sagaciously left intact, as a decoy-duck to catch the unwary. But it is on promotion the screw is applied. The surgeon then finds himself clothed in the same uniform (with no better accommodation, and still without a servant) as when he was a junior officer. In this humiliating position he must continue till he has served twenty years. Meanwhile he will see his inferior, the lieutenant of twenty, wearing the same relative uniform, and with the executive curve on his sleeve, receiving the ready salute of sentries, who will allow a surgeon to pass with a vacant stare.

Surely your young readers will pause for a time before they enter the gilded trap at Whitehall. Let them look beyond the first few years of service, and think of their maturer age. Should they disregard this warning, they will then find themselves, with turning hair and sad experience, elbowed and jostled by a race of youngsters, who will presume upon their own equal uniform, and very naturally ignore a surgeon's proper rank as their superior. Nor will more consideration be obtained from higher quarters; for there, in the vanity of executive prejudice, a surgeon who ventures to maintain his position is viewed with jealous contempt, and slighted on every possible occasion.

That such a state of things will continue I do not believe. But the term of its duration will entirely depend on the attitude of the medical schools and the profession at large. They will, doubtless, agitate again the cause they espoused so well a few years ago, and arrest the steady flow of medical candidates, which has emboldened the Admiralty in their late deeds of injustice. The navy will never be endurable by gentlemen of feeling and self-respect, until surgeons obtain relative naval rank equivalent to the army—naval rank, not the mere military name of it—and a uniform which will place that rank beyond the possibility of being ignored by any one on board ship. The medical schools, and they alone, can accomplish all this. For a stoppage of supply will assuredly convince their lordships of the folly and iniquity of reviving again the old degrading inequality between the executive and medical branches of the service. They will feel the force and acknowledge the expediency of the honest old principle,

May, 1863. LUDUS INGENUUS.

CARBONIC ACID IN THE ATMOSPHERE.—At the last sitting of the French Academy of Sciences, M. Mine read a paper on the quantity of carbonic acid in the air, showing that it does not exist in the same amount throughout the year. During December and January the quantity remains nearly the same; it increases in February, March, April, and May, and diminishes during the months of June, July, and August; after which it increases again from September to November, the maximum of the whole year occurring in October. During the night it is more abundant than in the daytime. The maximum quantity during the day occurs at noon. After a shower, it always experiences an increase.

THE LANCET.

LONDON: SATURDAY, AUGUST 1, 1863.

THERE is no more significant evidence of the great importance of the change recently induced in the election of members of the Council of the Royal College of Surgeons than the want of information on the part of their electors in reference to the status of the Examiners and members of the Council of that corporation. There are practically three classes of Examiners—those lately elected, and all now elected, who are subject to quinquennial re-election; a class, to which Mr. HAWKINS belongs, who are not subject to re-election, but may be removed by an order of the Council, and who have held office uninterruptedly all through life since their first election; and a third, which includes only Mr. LAWRENCE, who is altogether irremovable. Nevertheless it has been very solemnly, and with assumed correctness, announced that Mr. HAWKINS must offer himself for re-election as an Examiner. His term of office will, however, only expire by voluntary resignation, or by removal by special resolution, for which there is no precedent. We have described Mr. HAWKINS as possessing a life-long tenure of his office, regarding him as somewhat in the position of an English judge—not removable *quamdiu se bene gesserit;* so giving him the benefit of the Act of WILLIAM III., which altered the words of judicial commissions from the old form of *durante bene placito.* This is the practical operation of the clause affecting him, even though it admits of the latter interpretation. It is not worth while to discuss at length the technical construction of the actual terms of the several charters; but as the matter has at present acquired an unusual interest, we may offer a few observations on their purport.

The Act passed on the 22nd of March, in the fortieth year of GEORGE III. (A.D. 1800), refers to the letters patent of the 1st of EDW. IV., c. 1, which, at the supplication of the Freemen of the Mysteries of Barbers of the City of London using the mystery or faculty of Surgery, did grant to them, among other things, "That the said mystery, and all the men of the same mystery of the said city, should be one body and perpetual community; and that two Principals of the same commonalty of the most expert men in the mystery of Surgery might, with the assent of twelve or eight persons at the least of the same community, every year elect and make out of the community two Masters or Governors being the most expert in the mystery of Surgery, to oversee, rule, and govern the mystery and commonalty aforesaid." It then cites the 32nd HENRY VIII., which united the two companies of Barbers and Surgeons of London, both "occupying and exercising the faculty of Surgery," into one entire and whole body corporate and one commonalty perpetual; and proceeds to quote the letters patent of the 5th of CHAS. I., confirming, and in a degree extending, to the united company certain privileges; amongst others, thereby giving power to the said corporation, "to make annual elections of masters or governors of the said commonalty whereof two to be professors in the art and science of Surgery; and also to elect and constitute ten of the freemen of the said Society to be Examiners of Surgery in London." It then recites the statute 18th GEO. II., by which the union of the two companies was dissolved, which Act forms the basis of the Charter granted in the 40th GEO. III., and presents the first approach to anything like a distinct corporate surgical body. The Act of GEO. II. was "An Act for making the Surgeons of London and the Barbers of London two separate and distinct Corporations;" and provides that the union and incorporation of Barbers and Surgeons of London, made and effected by the 32nd HENRY VIII., should, after the 24th of June, 1745, be dissolved, and that such of the Members of the said Company as were freemen of the said Company, and admitted and approved Surgeons within the rules of the said Company, should henceforth be a distinct Company of Surgeons by the name of "The Master, Governor, and Commonalty of the Art and Science of Surgeons of London."

The Charter of GEO. III., reciting the fact that the last corporation was dissolved, and that it was of great consequence that the science of Surgery should be duly promoted, and that a College was expedient for the encouragement thereof, incorporated the Members of the late Company, and all such persons who since the dissolution thereof had obtained letters testimonial, into one body corporate and politic by the name of "The Royal College of Surgeons in London," with perpetual succession and a common seal; and gave power

"To elect and choose and appoint twenty-one persons to be the Court of Assistants of the said College, of which Court of Assistants ten persons shall be at all times constituted and appointed Examiners of Surgeons of the said College; of such ten persons, one shall be principal Master, and two others shall be Governors, to be respectively qualified and admitted in such manner, and to continue in the said offices respectively for such time or times as by these letters patent is hereinafter ordered and appointed."

Naming the first officials, the Charter proceeds:—

"We also will that the said persons so before named and constituted Examiners of Surgeons of the said College and their successors in that office, duly chosen, nominated, and appointed, shall respectively hold and enjoy their said offices during their natural lives, or until they shall be lawfully removed from the said offices for any reasonable cause."

This Charter contains a provision in favour of the two principal Serjeant-Surgeons and the Surgeon-General to the Forces, insuring them a right of election to the Board of Examiners. This Charter continued in force till the 13th February, 1822, when a short supplemental Charter (3rd GEO. IV.) confirming its provisions extended the privileges of the College, and changed the title of Master to President, that of Governors to Vice-Presidents, and that of Court of Assistants to Council. It also provided that the two principal Serjeant-Surgeons and the Surgeon-General, if on the Council, be admitted to the Court of Examiners on the first vacancy; and gave the College the right of having a mace. The election to the Council was thus rendered a condition precedent to the right of the Serjeant-Surgeons and Surgeon-General to a seat at the Board of Examiners.

The Charter of the 7th of VICTORIA (1843) introduced considerable changes. It altered the name of the College to that of the Royal College of Surgeons of England; created a new class of members, called Fellows; and enacted that such Fellows should constitute the future members of the Council. It provides for the qualification of the Fellows, and the requisites of

a membership of Council; and, amongst other regulations, declares

"That the number of members of the Council be increased, and that all future members of the Council be chosen from the Fellows of the College, and hold their office for a limited period only, instead of for life; and that the right of electing members of the Council be transferred from the Council, with whom the right now resides, to the body of such Fellows."

The 11th clause of this Charter provides that the number of Councillors be increased from twenty-one to twenty-four; "that the present members of the Council continue for life," and that future members be elective, and elected periodically in manner after-mentioned. Messrs. LAWRENCE, SWAN, GREEN, ARNOTT, and SOUTH were members of the Council when this Act was in force, and thus are insured a legislative protection in their position.

For the election of the members of the Council, it is provided by the 12th clause (we quote the marginal notes) that

"Upon the first Thursday in July next ensuing date hereof, or within one month, in manner after-mentioned, three Fellows to be chosen additional members of Council, and at the same period in every succeeding year three Fellows shall be chosen members of Council. In each year in which there shall be no vacancy or less than three among the life members, three of the elective members, or such less number as with the vacancies among life members shall make the number three, shall go out of office; and when more than three vacancies occur among life members none of the elective members to go out of office, and three Fellows only to be chosen to fill up three of the life vacancies, and the remaining vacancies to be treated as life vacancies for following year or years as the case may require."

"When the number of elective members shall be completed to twenty-four, three of the Council to go out of office annually."

"In all cases Fellows going out of office to be eligible for re-election."

"Three Members to go out of office who have been longest on the Board."

The 21st clause provides that the President and Vice-Presidents be no longer chosen exclusively from the Examiners, but from all the Council, whether Examiners or not.

This Charter gives a more limited tenure to the future Examiners than that previously quoted. The 20th clause provides—

"That there shall be ten Examiners of Surgeons of the said College, and the present Examiners shall be and continue such Examiners for life as heretofore."

Mr. LAWRENCE is the surviving Examiner to whom this provision applies, having been in office previous to date of Charter 1843.

It abrogates all privileges in favour of Serjeant-Surgeons, and proceeds:—

"All future Examiners of the said College shall be elected by the Council of that College either from the Council or the other Members of the said College, or from both or either of them; and that all future Examiners of the said College shall hold their office of Examiner during the pleasure of that Council, and so long only as the Council of the College shall think fit."

The important changes introduced by this Charter cannot be too highly estimated. It exalted the character of the College, founded collegiate rank, broke up that monopoly of place which had previously existed as a necessity, rendered the Council the governors of the College, and yet gave the Fellows in the matter of their re-election the right of exercising a control. It also ceded to the general members of the Council the privilege of being elected to the Vice-Presidentship, whether they were Examiners or not, and rendered the Fellows of the College eligible to the position of Examiner, though they may not have been elected as members of the Council.

This Charter continued in operation until March, 1852. The members who, under its provisions, then occupied seats at the Board of Examiners were — Mr. GREEN, elected in 1846; Mr. ARNOTT, elected in 1848; Mr. SOUTH, elected in 1849; Mr. HAWKINS, elected in 1850.

The Charter of March, 1852, was granted when Mr. HAWKINS was President of the College and of the Court of Examiners, both of which positions he simultaneously held. It continues at present in force. Its 16th clause runs thus:—

"Every Fellow of the said College who shall from henceforth be elected to the office of Examiner of the said College shall go out of office at the end of five years from the day of his election; but it shall be lawful for the Council of the said College annually to re-elect such person to the said office, and every such person being so re-elected shall take precedence in the Court of Examiners according to his former standing as a member thereof."

This Charter contains many valuable provisions for the members of the surgical profession. It extends the right of admission to the Fellowship to those who were Members of the College at the date of the late Charter; and removes some restrictions which existed, as also certain qualifications then required, as to admission to the Council.

It is interesting to trace the changes which have taken place so far as the Board of Examiners is concerned. Before the Charter of 1843, Examiners self-elected held their positions for life, or until they should be lawfully removed out of the said offices for any reasonable cause. Mr. LAWRENCE occupies this position. By the Charter of 1843, reserving rights of existing Examiners, they hold office during the pleasure of the Council, removable without the statement of any cause. Messrs. GREEN, ARNOTT, SOUTH, and HAWKINS come within its provisions. By the Charter of 1852 the Council have no option in the matter; but Examiners elected since that date of necessity resign at the periods stated. These are, at present, Mr. SKEY, Mr. HODGSON, Mr. WORMALD, and Mr. KIERNAN. To remove Examiners in office before 1852, requires therefore an active exercise of authority, the initiative of which must proceed from the Council, otherwise it is in the personal discretion of such Examiners to hold office for life. The discontinuance of Examiners elected since 1852 may at any time be effected by the discretionary exercise of votes of the Council, resulting in the non-re-election of objectionable candidates.

The practical inference to be drawn from the study of the several Charters is: The Legislature have recognised the propriety of placing the control and general welfare of the College in the hands of the Fellows. When vested rights have died out, the whole elective privilege is thrown open to the profession. Were it intended that a perpetual tenure of office should follow on election, the Charter which contained such provisions would not have been repealed. In making these essential alterations wisdom and experience both combined, and the Fellows of the College will do well to bear in mind that with them it rests that the intentions of the Legislature shall not be rendered inoperative, and their corporate privileges practically useless.

IF the more use of certain terms, even by educated people, could always be accepted as proof that they meant what they said, or had reflected before they had spoken, of what an amount of doubt and difficulty should we not be relieved? But it is not so, and much of our bickering and disputing arises because persons say what they do not mean, or do not exactly mean what they say. This is the case, too, whether we regard the language of ordinary or of literary society. Even in the use of technical and learned phrases meant to have unmistakable and definite values the most lax and vulgar habit abounds. Not in any country in the world, for instance, are the words "philosophy" and "philosophical" more common than in this; yet not in any is the pursuit of *philosophy* as an independent study more rare. The Germans laugh at our "philosophical statesmen," and our candle-snuffers made to snuff upon philosophic principles. One learned Teuton, in the midst of intellectual travail, is said to have anxiously given an order to a London bookseller to send him without delay the half hundred volumes of the "Philosophical Transactions." On their arrival he found to his dismay that not one word about *philosophy* existed in their pages. Had he been an anatomist, a botanist, a chemist, or an astronomer, he would have been well cared for, but as a philosopher—heu! But why did he not take a warning by what HEGEL himself said? "The natural sciences," wrote this author, "are in England denominated philosophy. An English philosophical journal treats of agriculture and manure, of housekeeping and professional knowledge, and communicates researches in these departments. The English call physical instruments, such as the barometer, &c., philosophical instruments. The ethical and moral sciences which are derived from the feelings of the human heart, or from experience, are called philosophy, as are also those which contain principles of political economy." Three or four years ago we were present at a well-known Medical Society, when a gentleman of good repute read a paper upon the "Philosophy of Cancer;" and but a short time since our attention was arrested by meeting with a discussion upon the "Philosophy of Dental Caries," in some journal devoted to the specialty of malar troubles. That the name, at least, of philosophy is honoured amongst us is very clear, though we have been so apt to contemn the view taken of the subject itself by the learned of other nations. The fact is we have confounded, and still confound, *science* with philosophy. Dutch ovens may be fairly allowed to be constructed on scientific principles, and makers of lorgnettes and mariners' compasses may properly claim the privilege of calling themselves manufacturers of instruments for scientific purposes; the inventors of such things may be scientific men, and the makers of them ingenious mechanicians, but certainly neither are necessarily philosophers.

We presume, however, it will be a long time before the terms *philosophy* and *science*, *philosophical* and *scientific*, are kept distinct in, and appropriate to, their meanings by the world at large. This is a grievance we must put up with; but we decidedly rebel against such laxity of usage and misapplication in the present day at our highest seats of learning. We have just received the "Report of the Cambridge University Natural Science Society for 1863," by the President. It would seem to be an admirable institution, and well fitted to promote the important object it desires to foster; but it will not let go of *philosophy*. It began its session with *science*, it is true, but it could not of course continue without the company of "divine philosophy." Mr. CATTON commences the series of communications by one on "Zoological Classification;" Mr. MONCKTON seconds him with a paper on the "Caves of South Devon;" Mr. CROTCH follows with "Collecting Insects;" Mr. DICKSON discusses the "Motor Nerves of the Tongue;" and then the President winds up with a "Paper in the Department of Philosophical Physiology." That it was a very good paper we have no doubt, though not, as the author himself admits, one upon "strictly natural history." Why, then, argue about a title or a term so pugnaciously? it may be asked. Because technical terms should be made as far as possible "invariable quantities." They should be the language of the learned everywhere, and be always of the same meaning.

But Cambridge made long since a *faux pas* in this respect. In 1819 was founded the "Cambridge Philosophical Society," which fostered simply mathematics and physical science. As for *philosophy*, the mathematic *sinus* which then hovered by the Cam strove not for the fervour of her love. The "Philosophical Society" scorned even the natural history sciences, for its philosophy was purely mathematics, whilst that of Oxford was philology and Greek plays. In modern days, however, Oxford and Cambridge have recognised the true philosophy and the natural history sciences as well, though they occasionally, in their terminology, jumble up the former with science, and rather recognise than encourage the study of the latter. We wish that their philosophy could compass the belief urged so well by Mr. SPENCER, "that if natural science studies are rightly pursued they can compete successfully with others [mathematics and classics] as a means of educating the mental powers."

"The University of Cambridge," observes the President, "professes to be a society of students in all and every of the liberal arts and sciences, and the study of physic has been prosecuted in the University from a very early date. Notwithstanding the very intimate connexion which subsists between many of the natural sciences and medicine, it was long before the study of physic, so far as the precints of the University were concerned, meant anything more than the payment of a considerable sum of money and eating a few dinners at very long intervals of time. It is true that many names of renown crop out here and there in the annals of Cambridge, but these are the exceptions, and only render the general darkness in the sciences the more dense."

In 1851, however, natural science obtained a more definite position in the University by the establishment of a "Natural Sciences Tripos;" but it was open only to graduates, and did very little towards furthering such branches of science as were included in the examination.

By 1860 the University authorities were brought to yield to the external pressure surrounding them. A grace of the Senate ordered regulations to be adopted which might place the departments of knowledge in question on the same footing as mathematics and classics, and by conferring the degree of B.A. on successful candidates from the Natural Sciences Tripos ostensibly elevate the latter to the same rank as the other Honor Triposes. But according to the Report before us a most important element towards the complete recognition of these studies is yet wanting. This element is—*encouragement*. Nevertheless, we must not despair, for after considerable delay and opposition, which more than once appeared likely to smother the project, the University has not only resolved upon,

but has actually commenced, under the supervision of a Syndicate, the erection of buildings designed as museums, lecture-rooms, &c., for various departments of natural science.

It would be great want of discrimination on our part if we did not perceive, however, that one of the most important aids in the new movement is the Society whose Report is before us. As its ground of union becomes fully appreciated, and it shall number amongst its members those likely to be called on to fill responsible positions in the Colleges, the "Natural Science Society of Cambridge" will become a force of no slight power in the University of its birth. We wish the President and the members every success.

WE are requested to call attention to the regulations (p. 140) now finally adopted by the Senate of the University of London, in accordance with the power conferred on the University by its last Charter, for granting the degree of Master in Surgery. The Registrar informs us that the first examination for the new degree will be held in March, 1864; and that the examination in Practical Surgery specified in the regulations for the second M.B. examination, together with the examination for Honours in Surgery, will be omitted from the ensuing and every subsequent M.B. examination, being transferred to the examination for the degree of Master in Surgery.

This is an important step in the same direction as that recently taken by the College of Physicians. It adds another to the increasing rivals of the College of Surgeons. For whereas the general licence of the London College of Physicians in Medicine, Surgery, and Midwifery is rapidly attaining great popularity for the purposes of general practice, as being a cheap, effectual, and highly honourable diploma; the Mastership in Surgery of the University of London, together with possible relative university honours, will fit those who attain the degree to fill the higher offices of surgery in its pure departments, and will rank collaterally with the Fellowship of the College of Surgeons.

Medical Annotations.

"Ne quid nimis."

LIFE IN THE WORKSHOP.

Les extrêmes se touchent: and in the moral world it is the extremes which touch us also. Let us hear that 50,000 persons are living under a pressure of want and labour which makes them less happy and less healthy than they ought to be, and than we are; let us hear that their lives are shortened by an average of say five years, giving an aggregate waste of life equal to the destruction of whole tribes, and we listen with philosophic indifference or with calmly frigid sympathy. Major Graham, Dr. Farr, Mr. Simon, and Dr. Greenhow know well how great and continued their efforts have been to make the most enormous vital results meet with any general or earnest attention. It is only by the most patient reiteration, the most eloquent comment, and by a great skill in massing figures so that multiplied results might be evolved with the simple grandeur of striking units—it is only by combining averages so as to produce extremes, that the public conscience has been fairly aroused. The Report of the Commission on the Employment of Children is filled with narratives which so border on the extremes of misery that they must fairly touch the public feeling, and will assuredly lead more rapidly to legislative reform than any long series of vital figures, although the latter are by far more convincing and much more thoroughly to the point. Lord Shaftesbury has done excellent service in calling attention to this report in his seat in Parliament; for what he there quoted the whole world has read, and will not soon forget.

Lord Shaftesbury presented a vivid picture of the most distressing scenes brought under the notice of the present Commission, which, in justice to the benevolent and well-directed genius of this distinguished philanthropist, we should say is but the renewal of the commission which he obtained in 1841, and which resulted in those beneficent acts of legislation—the Colliery Act, the Print Works Act, and the Bleaching Works Act. The Commissioners in their first report refer, among others, to the following works:—Potteries, lucifer-match manufactories, percussion-cap manufactories, paper-staining works, fustian-cutting works, and lace and hosiery manufactories. They also make observations and produce evidence upon the violation of the Act relating to climbing boys. In the potteries 11,000 children are employed in Staffordshire alone. They work twelve hours a day, sometimes fourteen or fifteen hours, in an atmosphere intolerable by reason of dust and heat and ill-ventilation, some of the places ranging in temperature from 126 to 148 degrees. The medical evidence as to the potters states that, "as a rule, they are stunted, ill-shaped, and frequently ill-formed in the chest. They become prematurely old, are short-lived, and are especially prone to chest disease, pneumonia, phthisis, and asthma. Scrofula is a disease of two-thirds or more." "Each generation," says Dr. Greenhow, "becomes more dwarfed and less robust, and but for their occasional intermarriage with strangers this deterioration would proceed more rapidly."

The well-known sufferings of the workers in phosphorus for lucifer-match-making form a terrible subject, which for the medical public is but too trite and well confirmed, and must deeply affect the minds of all. They may be avoided by the employment of amorphous phosphorus, and by the adoption of certain precautions which have been pointed out in this country, more especially by Dr. Letheby. Many of the other trades enumerated are unwholesome chiefly by reason of the excessive hours of work, overcrowding, and ill-ventilation of the work-rooms. But when we come to the trade of chimney-sweeping we meet with instances of personal ill-treatment and revolting cruelty. The existing number of climbing boys is still estimated at 2000. Mr. Ruff, himself a master sweeper, thus described their initiation into the business:—"No one knows the cruelty which a boy has to undergo in learning. The flesh must be hardened. This is done by rubbing it, chiefly on the elbows and knees, with the strongest brine, close by a hot fire. You must stand over them with a cane, or coax them by a promise of a halfpenny, &c., if they will stand a few more rubs. At first they will come back from their work with their arms and knees streaming with blood; then they must be rubbed with brine again."

This is a state of things which justifies the most stringent enforcement of legislative penalties; and, for the credit of the country no less than the health of the population, we trust that the next session will see the abuses described thoroughly removed, and the existing disgrace wiped away. It is a source of satisfaction to observe how large a share medical philanthropy has had in contributing to the progress of this reform, and in how many instances the investigations on which the Commission has relied have been laboriously carried through by the unaided efforts of members of our profession.

LOCAL DISSENSIONS.

ACTIONS such as that of White *v.* Harston, recorded elsewhere, are as much to be deplored as the circumstances which originate them. No doubt it is a very grievous matter that the conduct of a medical officer should be made the subject of such a communication as that addressed by the vicar to the Poor-law authorities. We express no opinion on the merits of the case.

The medical officer's book throws some light on the condition of the parties in whose behalf the vicar interfered. One good result may follow from the lamentable difference: a repetition of such an occurrence as that set forth in the surgeon's Report-book may be prevented. It is horrible to think that such an utter want of decent feeling should be tolerated as that which it discloses. We have recently had occasion to notice the conduct of a relieving officer, which manifested much negligence. We trust that an inquiry into the practices of Dinford, the relieving officer in whose district this complaint has arisen, will be instituted, and that he will be required to explain his share in this matter. As regards the vicar and the medical officer, we recommend the former to merge points of doctrine in those of practice, and to remember that his Christian mission has a higher object than sectarian disquisition. Mr. White, by the experience he has derived, must feel that for the useful and kindly discharge of his official duties a perfectly good understanding with the clergyman of his district is essential. As both are called upon to perform the obligations of their several offices, they have ample opportunity of learning that religion without Christian charity, and surgery without hearty benevolence, are both vocations destitute of those essential attributes which alone can render men professing to practise either profitable servants.

We trust that by this time a reconciliation perfect and complete has taken place.

INFANTICIDE.

ALTHOUGH late in the session, and at a time when no practical relief could be anticipated from the mere mention of the subject, Mr. Cox has done some service in formally soliciting the attention of Parliament to the prevalence of infanticide. To arrest the wholesale massacre of children which is now carried on with impunity in this country is one of the most important duties of our time. Attention has again and again been directed to the subject in this journal, in the charges of the coroners, in the reports of the Registrar-General, and more recently in the columns of the public press. An excellent work has been published concerning infanticide by Dr. Burke Ryan, a physician of considerable repute, whose notice was drawn to the subject when writing the Fothergillian prize essay on a kindred topic; and we commend this book to the study of the Home Secretary, and of independent members who propose to take part in legislating on the matter. Mr. Cox could on the present occasion only invite Sir George Grey to consider the subject during the recess, and the few remarks which he made certainly disclosed enough of the case to show the urgent necessity for legislation. He said that in the course of the last year he was very much struck by the constant reports in the newspapers of verdicts given by coroners' juries of the wilful murder of children, and he moved for a return of those verdicts in England and Wales during a period of eighteen months—viz., for 1861 and the first half of 1862. He found from that return that the total number of children under two years of age who had met with untimely deaths within that period was 5547. In 224 cases verdicts of "wilful murder" were returned; in 697, open verdicts of "found dead;" and there were 956 cases of suffocation: so that out of 5547 deaths in England and Wales there was a total of 1887 cases in which it was necessary to have inquests. He was sorry to say that the metropolis had a bad pre-eminence in regard to child-murder, for during those eighteen months no less than 297 children were murdered in the metropolitan district. Coroners' juries seemed anxious to avoid giving a verdict of "wilful murder," even though against some person or persons unknown; they preferred such a verdict as "found dead." He submitted that, if in our state of boasted civilization there were upwards of 5000 violent deaths of infants in the course of eighteen months, it was a matter which ought to engage the attention of the Government. It might be doubted whether a remedy could be found for this state of things, but, having had the subject long under his consideration, he was ready to make a few suggestions with that object. From a careful examination of the returns, he was inclined to think that a number of the child-murders did not arise from what suggested itself as the most obvious cause—the desire of a woman to get rid of the evidence of her shame at the earliest opportunity. In a great number of the cases of wilful murder the children had attained the age of twelve months and upwards. The bastardy laws, he thought, were much to be blamed for these results, the allowance of 2*s.* 6*d.* a week for the maintenance of a child being wholly insufficient. In some instances, women brought before the metropolitan police magistrates had confessed the crime with which they were charged, giving as a reason that the sum allotted weekly was not sufficient, and that they might as well murder the child at once as see it die of starvation. As the law stood, boards of guardians were not entitled to assist or aid a woman in any way, even to recover the 2*s.* 6*d.* weekly. If that restriction were removed, they would in many cases be able to procure for a woman the means of supporting her illegitimate child, and would take away from her the temptation of murdering it. He was corroborated by Dr. Lankester, one of the coroners for Middlesex, in the assertion that juries were averse to finding verdicts of "wilful murder" against mothers, because the punishment for murdering a child was the same as for murdering an adult.

To meet this natural tenderness of the juries, and to diminish the severity of the punishment which would otherwise await the often deserted, ruined, and frantic child-murderer, the doctrine of live-birth has been so strained as to make it almost impossible to get a conviction for the murder of a new-born child, even in point of law.

On the other hand, the suggestions of the member for Finsbury are not very practicable. Sir George Grey pertinently suggested the possibility that an augmented allowance for illegitimate children might tend to produce an alarming increase in their number. Mr. Hunt, in the course of the debate, referred to crinoline as a cause of the increase of infanticide, by its tendency to conceal pregnancy. But here assuredly the State would find it difficult to interfere by a sumptuary enactment. Scepticism is the law of the official mind when troublesome remedies are first proposed for glaring evils; but in the course of the recess, with the help of Dr. Ryan's book to suggest and the Crown lawyers to regulate the means of redress, there is some reason to hope that a measure of great public value may be prepared.

A ROYAL REBUKE.

WE are glad to perceive that the recent fatality at Birmingham has attracted the attention of her gracious Majesty, whose letter on the subject, we doubt not, will prove as efficacious as an Act of Parliament. It is seldom the Queen rebukes her people; and we are proud to feel that, as a people, rebuke is seldom required. On the present occasion the censure is deserved. Undoubtedly there has recently sprung up a morbid taste for dangerous and difficult exhibitions, rather than healthy recreations. This is chiefly due to the remarkable success of Blondin, whose transatlantic achievements were of a character which threw into the shade those of all similar performers. Others of less dexterity have followed in the same course, with far different results. The Queen recognises this degeneracy in the public taste, but with a true appreciation of the spirit of her people, addresses them more in sorrow than in anger; and, while lamenting the change, justly censures the conduct of those present at the recent calamitous occurrence. We are satisfied the English people will rightly appreciate the opinions of their Sovereign, and will practically adopt the suggestions they convey. Love and loyalty will both conduce to render them desirous to regain in her esteem that position which this dissolute trifling with human life may for the time have compromised.

THE HEALTH OF THE AFRICAN MISSIONS.

THE terrible sacrifice of life in the members of the African Missions has lately excited painful regrets, and has been the subject of deep and anxious thought among those most attached to the work, while it has been a stumbling block in the way of their support by many large-hearted men. *The Times* has recently commented with force on the hardships, sufferings, and mortality which have fallen upon the University Mission especially. In a late number we adverted to the subject, and pointed out what were the most essential precautions against the melancholy loss of life.

Dr. Livingstone, deeply interested in placing the question before the English public from his point of view, has desired a friend (Dr. Druitt) to forward us a letter dealing with the subject, with a request "to the Editor of THE LANCET to take any part of the communication that may suit his inquiry, and oblige me by giving it through his pages to our medical brethren." Dr. Livingstone is so fully entitled to be heard with attention and respect on this important subject that we give his views *in extenso*. He commences by referring to the doubt which has been thrown on the description of the station chosen—viz.:

"That 'the mission under the direction of Dr. Livingstone settled down in an admirable station high up the river, where the country is an elevated plateau, where the climate is tolerably salubrious, and where a dense population is immediately available for missionary work.' The quotation is from the late Bishop Mackenzie, and expresses the opinion which I formed, and still hold, as to the general healthiness of the plateau referred to. The spot, taken as a temporary residence until extensive acquaintance with the whole region should enable the head of the mission to select a suitable locality for a permanent abode, was forty or fifty miles distant from the 'Elephant Marsh,' and at an altitude of between 3000 and 4000 feet above it. We shall therefore try to think of the marsh and mission station as distinct as Oxford and London. The plateau is ten or twelve miles broad, and probably one hundred in length. We happened to travel along it at the hottest season of the year, and even then found the climate deliciously cool. When previously in the Upper Shirè valley, at an altitude of 1200 feet above the sea, we were drinking water at 84°; and in one day mounting up to an altitude of between 3000 and 4000 feet, we had every few miles a gushing stream, with the water at 65°. The air had that bracing effect which the mountain breezes have at home, and we were all struck by observing far more very old people than we had seen anywhere else. Our stay was too short for our own experience to be worth anything; and the experience of the missionaries amounts only to this, that without ordinary sanitary precautions the health is endangered here as it is everywhere else.

"The missionaries were placed in very peculiar circumstances, and such as probably they never anticipated. As we climbed up the plateau together, and felt its refreshing breezes, we met parties of Portuguese, with long lines of bound captives in their possession. These were soon made free, and the Bishop, trusting to the support of those who had sent him, bravely took charge of them. These re-captives soon amounted to 200; but in what follows I have only the testimony of the missionaries themselves, for I then left, and pursued the exploration of Lake Ayassa for some 225 miles. Magomera was situate on the bend of a small river of exactly the same shape as that into which General MacClellan, for "strategic reasons," ran. It was shaded by lofty trees, which the poor Bishop admired exceedingly, and resolved to preserve. The efforts of the missionaries failed to prevent these 200 people from depositing their droppings all over a space of less than 100 yards by 50, and it was then fitly described as a 'pest-hole.' For some months the people adjacent and around them brought abundance of provisions for sale, and no one imagined that these were all their surplus stores; but after the expenditure of the surplus came famine. The missionaries nobly shared their own provisions with the poor wretches whom they had adopted, and were reduced to the same hard and scanty fare. About fifty of the natives perished by ulcers and dysentery; and to me the wonder is, not that in that foul den the whites presented the sorry figure you have drawn, but that they were not all cut off together. Now don't blame them; they felt the necessity of removing out of the pest-hole, but the grass had all been burned off, and new huts could not be built; slave-hunting, at the instigation of the Portuguese of Zette, was going on all around them; they were in new and untried circumstances; had to retire to the lowlands. But still all think that the plateau is the healthiest abode, and will return as soon as possible.

"The Bishop, whose untimely fate everyone who knew him must deeply deplore, never spared himself, and was foremost in depriving himself of the comforts which, you rightly conclude, are indispensable to Europeans, in order to save the orphans of the liberated slaves. He and Burrup were the strongest of the party, and were proportionately disregardful of their health. Exposed for more than a week previously to hard, fast marches, worse fare, and drenching showers, he set out from Magomera, ill with diarrhœa, on his last and fatal trip, and began by walking through the stream, remarking that he would soon be wet at any rate. After two days' walking in a plight you may imagine, he reached the Shirè, embarked in a miserable small canoe, and after dropping down the stream one day was upset, lost clothes and medicines, and went on, of course still wet—coffee, tea, and sugar all gone. It is scarcely possible to conceive a more doleful plight; but let anyone go through the same amount of exposure in England, and he will as certainly be cut off by consumption as the Bishop and Mr. Burrup were by fever and dysentery. When I began to travel I walked through streams and braved rains in the same way the Bishop did; but I found that I had fever perpetually, and gave up the habit, though it was really pleasant to have the extremities cooled. All Europeans going to the tropics should take as good care of their health there as they do at home. In addition to the loss of invaluable services, these untimely deaths are a great misfortune to the cause of African civilization, because people immediately ascribe them to the inevitable effects of the climate. In our expedition, though we have undergone exposure to which no missionary need subject himself, we have had but two deaths among a large number of Europeans in four years, and these were caused by detention sorely against our will in most unwholesome localities.

"No great work can be accomplished without pain and suffering, and even death. We must expect to hear cases like that of the noble-minded Indian officer who lately fell a victim to gigantic labours during the Indian famine, or that of Lord Canning, and try to place a slight drag on the imagination. Horror seems to lay hold on you at the bare mention of 'Elephant Swamp.' I am actually to pass through it to-morrow, and am only sorry that the enormous herds of elephants—we have seen 800 in it at once—have become so knowing we have no chance of getting a steak or a foot. But see the effects of bad example: my imagination, do as I will to prevent it, obstinately pictures you sitting on that wilderness of 800 cesspools which the commissioners only the other day swept away, and drinking water mixed, according to Dr. Acland, with all the abominations and unutterable filthinesses which are poured out of Oxford, Reading, &c., into your cup. Oh! you filter your water through a few inches of sand, do you? I would not trust it (unless I were in London) though filtered through the Great Sahara. The delicious unconsciousness with which you exclaim 'Elephant Marsh; good heavens! what a vista of deep swamp, rotting vegetation, flies, vermin, stinks, agues, and dysentery do the words call up!' only excites a merry laugh—believe me, it has not one particle of ill-nature in it. You have actually a larger area of cesspool and marsh around and above London than exists in the Elephant Swamp, and to the direful effects let typhus, typhoid, diphtheria, cholera, consumption, scrofula, &c., testify. Here they are absolutely unknown. But our fever, if ill-treated, as by bleedings, or not treated, as it was in the case of the missionaries at Lynyanti, who took only a little Dover's powder, is as fatal as any two in your catalogue. And while it would be 'penny wise and pound foolish' to make missionaries of inferior men, good men ought invariably to be accompanied by a thoroughly educated and well paid medical officer. I am, &c.

"River Shirè, Jan. 26th." "DAVID LIVINGSTONE.

"We have just heard the sad tidings that the Rev. H. C. Scudamore has been cut off by fever about forty miles above this, but not on the plateau. In this case there seems to have been no undue exposure. He was skilfully treated by Dr. Dickenson. I am bowed down in grief for our beloved Scudamore. This case is different from those on which I have remarked.—D. L.

"Elephant Marsh, Jan. 27th."

THE

REPORT OF THE ROYAL COMMISSION ON THE SANITARY STATE OF THE INDIAN ARMY.

No. III.

THE diminution of the number of stations in the plains and establishment of one-third or more of the forces in the hills, although the recommendation best fitted to effect the most thorough and permanent amelioration of the sanitary condition of the Indian Army, is that probably which will be least readily carried into operation. Involving a radical change in the distribution of the European troops in Hindostan, it may be anticipated that the necessity for so important a step will not be immediately perceived by the military authorities, and that time will be required in order that they may familiarize themselves with, and for the growth of a just estimate of, the conception. Again, objections may be advanced to the recommendation on economical grounds. Notwithstanding that in the long run whatever contributes most efficiently to the sanitary welfare of an army must prove most economical, yet a change such as that which is contemplated by the Commission would undoubtedly in the first instance lead to a formidable outlay. But it is well to reflect that in the majority of the stations in the plains, nothing short of a complete reconstruction will modify to any sufficient extent their lethal character. Except by a preliminary destruction of superstructures and subsoil (if such a destruction were indeed a possibility), it would be hopeless to dream of placing native lines, bazaars, and contiguous towns in a satisfactory sanitary condition. At the best, in fact, the sanitary improvement of existing stations, if it do not include complete reconstruction, must be a costly and inefficient tinkering. Where the site of a station is needlessly and irremediably vicious, good localities existing in close proximity, as at Cawnpore, Kurral, Dinapore, Delhi, and Ghazeepore, it is not to be supposed that the nation will be content without the removal of the cantonments to a more healthy position. When the comparative economy of retaining the plain stations or adopting the recommendation of the Commission is fairly estimated, it will not be surprising if the immediate as well as prospective advantages prove to be in favour of the latter.

The European soldier in India is a very costly article. His estimated annual value is £100; and the expenditure upon him when sick is as great as when well. The loss arising from excess of mortality, irrespective of the cost of the extra sickness indicated by a high death-rate, is equivalent to a daily tax of nearly £1000. Economy in this case, it is pleasant to reflect, (seeing how often this consideration limits loftier motives), goes hand in hand with duty.

The organization of a special sanitary service, the second of the two principal recommendations of the Commission, must follow as a necessary consequence of the inquiry, if this is to give rise to any permanent practical results. To the absence of such a service may be traced the whole of those great evils which have been laid bare by the investigation. It might have seemed a self-evident truth that the measures requisite for the preservation of the health and vigour of the soldier demanded as scrupulous and systematic organization as those necessary for his care when sick, or for his training in arms; but this truth has never been learned by governments or military authorities, unless as the result of bitter or even disastrous experience.

"Except for regimental and certain stational purposes," says the Commission, "there is no sanitary authority or administration in India, and no means of bringing the large experience acquired in dealing with sanitary questions as regards towns, stations, and barracks, including the description of works which have been successfully introduced at home, to bear on the Indian question. The time has now arrived to supply this deficiency." Calcutta, Madras, and Bombay possess, it is true, local sanitary commissions appointed by Government. But the commissioners do not appear to be specially conversant with the work entrusted to them. Hence, in each city the state of the population, as regards drainage, water-supply, cleansing, construction of buildings, and general sanitary arrangements, is described as being "as bad as it can well be. It is hardly an exception," adds the Commission, "that Bombay has recently obtained, for the first time since it came under British rule, a water-supply, or that Calcutta is about to be drained; for drainage and water-supply are only two portions of one system, and not two separate systems. Nothing has yet been done in Madras. And, as sanitary measures, to be effectual, must be carried out as a whole, and not partially, it cannot be said that even the seats of Government have, up to the present time, made any efficient progress in sanitary improvement."

Other large cities and towns, so far as the evidence laid before the Commission warrants a conclusion, have no sanitary administration whatever; "so that, to all intents and purposes, this important administrative department has to be created in India."

The sanitary government of bazaars is entrusted to the cantonment magistrate, and in practice it is confined chiefly to the enforcement of surface cleansing—which, however, is carried out on no definite principle, and as a rule most ineffectively. The sanitary condition of the lines is under the control of the military and medical officers. "But hitherto this part of the administration has been far from efficient, on account of its not being special enough. ..... An examination of the stational returns shows that the proper functions of officers of health are not even recognised, and that there is neither order nor system in the administration."

So long as there is no sanitary department, and a knowledge of military hygiene or preventive medicine is not exacted from medical officers, no other results than those referred to can be looked for. But the regulations recently adopted in the Queen's service for the practical and theoretical instruction in military hygiene of candidates for commissions in the medical staff, and which now apply equally to the Indian service, will do much towards removing many evils, so far as stations are concerned. In a few years the Indian army will be supplied with a considerable number of men competent for ordinary regimental sanitary work. "According to the new medical regulations in force in Queen's regiments," says the Commission, "medical officers have now certain defined sanitary powers in inspecting and reporting to their commanding officers, who are required to carry out their recommendations, or else to state their reasons for non-compliance to the superior military authority. Special sanitary officers can be appointed to this work in garrisons, camps, and stations; or, if such officers are not appointed, the principal medical officer is required to do the duty. Reports are made to commanding officers, and are dealt with as already mentioned. This procedure was in operation in India during the mutiny, and 'was leading to an immense amount of good,' when the service was discontinued. We are of opinion that, if the regulations were enforced at every station, they would effect all the good they are capable of, so far as the stations are concerned. These regulations are applicable only to the removal of easily removed causes of disease. They can effect no improvement as regards drainage, water-supply, the laying out of stations and bazaars, and works generally requiring a large outlay, such as are executed under the Public Works Department. This department at present has no special sanitary direction; and, as we have shown, even the latest constructed barrack errs in the most important particulars."

As one means of avoiding this latter evil, the Commission suggests that all cadets of engineers at Brompton should be required to attend a special course of hygiene, which they

have a right to do according to the army medical school regulations.

For the rest we cite the recommendations of the Commission in detail:—

"There are, no doubt, considerable difficulties in the way of organizing an efficient sanitary service for India, and in adapting it to the various exigencies of the country; but there are, nevertheless, certain leading principles which should be kept in view in any administrative arrangements to be introduced for the purpose. It is, for example, of great importance that the procedure should be as far as possible uniform in each presidency; and this could be best secured by appointing commissions of health, one at each seat of Government, representing the various elements—civil, military, engineering, sanitary, and medical, on the co operation of which depends the solution of many health questions. We are of opinion that such commissions are necessary also to give a practical direction to sanitary improvements and works. Their functions would be chiefly consultative and advising on all questions relating to the selection and laying out of stations, proper construction of barracks, hospitals, and other buildings, drainage, water-supply, cleansing, and general sanitary supervision in stations, cities, and towns, and on the prevention of epidemic diseases. To fulfil the other object of taking advantage of home experience, it would be necessary to afford these commissions every needful information on the most approved and economical methods of laying out sanitary works, and in those healthy principles of construction and improvement of barracks and hospitals which have been successfully carried out in England, but which have still to be introduced into India, and adapted to the circumstances of the country. The sanitary improvements which have been recently introduced at home military stations, and which are about to be carried into effect at certain foreign stations by the War Office, as well as the improved principles of construction in barracks and hospitals now in use, were adopted on the advice of a commission specially appointed by the War Office to inquire into the subject. The questions which arise out of the evidence from the Indian stations are of the same nature as those which have come under the examination of, and have been dealt with by, the War Office Commission; and it would be highly advisable to make their experience available for India by adding to the existing Commission an engineer and a medical officer conversant with Indian sanitary questions, or to form a similar commission in England for this object. Such a commission, if considered preferable, should include members specially conversant with recent improvements, military and civil, an engineer of Indian experience who has given attention to sanitary works, and a medical member acquainted with the sanitary question as it presents itself in India. The function of such a commission could of course be consultative only. It would simply be the medium of advising and informing the Indian Government and the presidency commissions on the latest improvements, and on the best principles of sanitary construction. For this purpose, it might give its advice on the healthiness or otherwise of plans, and as to the sanitary details of buildings to be occupied by troops; on the best and most economical methods of water-supply and drainage: it might collect and publish useful information and instructive matter regarding improvements, and it might possibly be able to give a more practical direction to the education of cadets of engineers destined for service in India, to enable them to devise works and improvements on healthy principles. It would in no way interfere with perfect freedom of action. It would place at the disposal of the Indian Government and presidency commissions the latest experience, classify and generalize the results of their several publications in a summary form, and thus enable all to arrive at a more satisfactory decision as regards measures to be carried out for protecting the health of troops than would otherwise be possible."

It is suggested that the executive authorities should be, in regard to military buildings and stations, the Department of Public Works, whose sanitary plans and proposals would first be submitted to the presidency commissions. Plans for the sanitary improvement of native towns connected with stations would also be submitted for advice and opinion to the presidency commissions. It is further suggested to begin "this great work" with the seats of government, "and to select a few of the more important stations to be thoroughly improved as examples. This course would at once afford the necessary administrative experience, and a basis would be laid for future progress. Much time must necessarily elapse before much progress is made, but we fear this is inevitable."

The recommendations of the Commission to meet the particular evils disclosed during the inquiry may be briefly indicated:—

No recruit should be sent to India under twenty-one years of age, nor until he has completed his drill at home. No spirits should be issued to the troops on the voyage out, and the sale of spirits at canteens should be discontinued, malt liquor or light wines being substituted. The ration should be modified to suit the season, flannel employed as underclothing, and a better system of supplying boots introduced. Colonel Greathed stated that the men in his regiment never used the boots sent out to India until they had been remade. The means of instruction and recreation should be extended to meet the requirements of each station. Until the mortality is reduced, the period of service in India should be limited to ten years. Provision should be made for passing invalids at the port of embarkation without delay, and for their immediate shipment home. The drainage and water-supply of all stations should be subjected to systematic examination and improvement. All future barracks should be erected on raised basements; and all new barracks should be constructed to hold no more than a quarter company in each building, or at most half a company in one building in two separate rooms having no direct communication with each other. The sepoy "has an instinctive horror of barracks," says the Commission. The cubic space per man in future barracks should be from 1000 to 1500 feet, and the superficial area from 80 to 100 feet; and in hospitals the cubic space should be fixed at 1500 feet and upwards, and the superficial area at from 100 to 120 and 130 square feet. The recommendations refer also to the internal arrangement of barracks and hospitals, ventilation, ablution and bath rooms, cooking-houses, latrines and urinals. Finally, the Commission advises "that a code of regulations embodying the duties and adapted to the specialties of the Indian sanitary service be drawn up and issued under authority: that the system of army medical statistics at present in use at home stations be extended to all stations in India: and that a system of registering deaths and the causes of death be established in the large cities of India, and be gradually extended so as to determine the effects of local causes on the mortality of the native as well as of the European population; the results to be tabulated and published annually by the commissions."

Such are the recommendations of the Royal Commission on the Sanitary State of the Army in India. Let it be remembered that the annual death-rate of the British forces in Hindostan has hitherto been about 69 per 1000. It is proposed to maintain a European establishment of 73,000 men. At the present rate of mortality this force would require 5037 recruits per annum to fill up the vacancies caused by death alone. In the most healthy stations the death-rate is about 20 per 1000, and the Commission thinks that this may be taken as the possible mortality under improved sanitary conditions. At a death-rate of 20 per 1000 the proposed force would require only 1460 recruits per annum. By the adoption of the recommendations of the Royal Commission of 1857 the mortality of the Home forces was diminished one-half in the short space of two years; by the adoption of the recommendations of the Indian Commission a like favourable result would doubtless follow. Let us hope that the suggestions of the latter Commission will be carried as energetically, speedily, and successfully into operation as were the suggestions of the Commission of 1857.

A NEW CONVALESCENT DEPOT has been established for the army of India at Nuncote, near Meerut. The *Delhi Gazette* remarks that this is another instance of the desire exhibited by the authorities to increase the number of hill sanitaria for the service.

THE LATE DR. JOHN MOORE NELIGAN.

THE death of this distinguished physician is a serious loss to the Irish medical profession. He has long occupied a high position in the sister metropolis. At an early age he acquired distinction as a medical essayist. His contributions to the *Dublin Journal of Medical Science* and the *Edinburgh Medical Journal* attracted deserved attention to their author, then a young man entering on practice. They secured to him the approval and friendship of the leading Dublin physicians, with whom he became associated. Amongst these we particularize the late Dr. Robert Graves, then in the zenith of his reputation. He, in the year 1848, selected Dr. Neligan to bring out the second edition of his celebrated work, "Clinical Medicine." The manner in which this trust was performed at once stamped Dr. Neligan as a physician to whom success in an eminent degree was but a question of time. Each succeeding year confirmed the soundness of Dr. Graves' selection. In 1849 Dr. Neligan was appointed editor of the *Dublin Quarterly Journal of Medical Science*. This onerous and responsible position he continued to hold for twelve years, until at length the duties of a large and lucrative practice rendered his resignation a matter of necessity. The able, impartial, and diligent manner in which his editorial duties were discharged; the bold and dignified course he invariably pursued in matters of professional honour; the deep interest he ever evinced in all movements calculated to advance the social status of his less favoured brethren; the generous support he on every occasion afforded to those appeals which the vicissitudes of the Irish profession in past years rendered not unfrequent, deservedly secured to Dr. Neligan the warm esteem, respect, and admiration of his professional brethren. Many years have elapsed since Dr. Neligan first offered to the profession his now celebrated work, "Medicines: their Uses and Mode of Administration." This volume at once constituted its author the Irish Pereira. It has passed through five editions, a sixth being at present in the press. Dr. Neligan's reputation as a Materia Medicist secured his election as one of the Committee for editing the British Pharmacopœia, which may be regarded as the last of the many services he has rendered to the Irish medical school. Amongst the works which more particularly conduced to the professional confidence Dr. Neligan enjoyed at the period of his death, we place his "Practical Treatise on Diseases of the Skin," which, in conjunction with his "Atlas of Cutaneous Diseases," led to his very extensive consulting practice in that specialty.

As a general physician and a sound clinical teacher, Dr. Neligan, when one of the medical staff of Jervis-street Hospital, acquired a high reputation. The esteem in which he was held by the profession in Ireland may be inferred from the fact that he has been twice elected as Vice-President of the King and Queen's College of Physicians, was for many years a member of its Council, and one of its Board of Examiners. In 1853 the University of Dublin conferred on Dr. Neligan the honorary degree of Doctor of Medicine. Abroad his professional repute was deservedly high. He was an honorary member of the Medical Societies of Sweden and Athens, and of the Pharmaceutical Society of Great Britain.

At the comparatively early age of forty-eight years, after a week's illness, Dr. Neligan, in spite of every effort in his behalf, died at his residence, Clonmel-house, Monkstown, on the 24th ult. His death adds another to the many vacancies which the last few years have witnessed in the Dublin medical profession. Crampton, Cusack, Rynd, Porter, Montgomery, Marsh, Lees, "old familiar faces," to whose example and teaching British medical progress is so much indebted, have, within a brief space of time, been removed from their sphere of usefulness. Last, though not least, is the subject of the present notice, who combined in a singular degree those qualities of head and heart which rendered him their worthy compeer. The Irish profession, while they lament the loss of these distinguished men, may feel proud of their memories. Their epitaphs are written on materials more durable than monumental brass or sculptured marble. They have left an indelible impression on the science of their day—have registered their names in the experience of their age. Posterity will best know how to estimate the greatness of their loss in the contemplation of their singular devotion to the cause of progress and of truth.

UNIVERSITY OF LONDON.

REGULATIONS FOR THE DEGREE OF MASTER IN SURGERY.

Master in Surgery Pass Examination.

THE examination for the degree of Master in Surgery shall take place once in each year, and shall commence on the first Monday in March.

No candidate shall be admissible to this examination unless he have produced certificates to the following effect:—

1. Of having taken the degree of Bachelor of Medicine in this University.

2. Of having attended a course of instruction in operative surgery, and of having operated on the dead subject.

3. Of having, subsequently to having passed the first M.B. examination, attended to practical surgery, with special charge of patients, in an hospital, infirmary, dispensary, or parochial union, during six months.

These certificates shall be transmitted to the registrar at least fourteen days before the examination begins.

The fee for this examination shall be £5. No candidate shall be admitted to the examination unless he have previously paid this fee to the registrar. If a candidate fail to pass the examination the fee shall not be returned to him, but he shall be admitted to any subsequent M.S. examination without the payment of any additional fee, provided that he give notice to the registrar at least fourteen days before the commencement of the examination.

The examinations shall be conducted in the following order:—

Monday (afternoon, 3 to 6)—Surgical Anatomy, by printed papers.

Tuesday (commencing at 10 A.M.)—Performance of surgical operations upon the dead subject. Application of surgical apparatus.

Wednesday—Examination, and report on cases, of surgical patients.

Monday in the following week (commencing at 1 P.M.)—*Viva-voce* interrogation.

On Wednesday morning at nine o'clock in the week following the commencement of the examination, the examiners shall publish in alphabetical order the names of such of the candidates who have passed. And a certificate under the seal of the University, and signed by the Chancellor, shall be delivered to each candidate.

Examination for Honours.

Any candidate who has passed the M.S. examination may be examined for Honours in Surgery.

The examination shall take place on Wednesday and Thursday in the week following the commencement of the Pass examination, and shall be conducted by means of printed papers in the following order:—

Wednesday (afternoon, 3 to 6)—A commentary on a written case in surgery.

Thursday (morning, 10 to 1; afternoon, 3 to 6)—Surgery.

In the course of the following week the examiners shall publish a list of the candidates who acquit themselves to their satisfaction; the candidates being arranged in three classes, according to their respective degrees of proficiency. Candidates shall be bracketed together if the examiners are of opinion that there is no clear difference between them.

If in the opinion of the examiners sufficient merit be evinced, the candidate who shall distinguish himself most in surgery shall receive £50 per annum for the next two years, with the style of University Scholar in Surgery.

Under the same circumstances, the first and second candidates shall each receive a gold medal of the value of £5.

BRITISH METEOROLOGICAL SOCIETY.—The members of this prosperous Society, which numbers many medical men in its lists, have elected Robert Dundas Thomson, M.D., F.R.S. L. & E., as their president for the year 1863-64, the first instance of a member of the profession holding that position. It is to be hoped that this recognition will encourage medical practitioners to join the Society. The subscription is one guinea annually, for which the members are entitled to the use of the library, and a copy of the quarterly "Meteorological Journal."

Correspondence.

"Audi alteram partem."

SMOKING AS A CAUSE OF OPTIC ATROPHY, ETC.

To the Editor of THE LANCET.

SIR,—I am desirous of saying a few words on this subject, as Mr. Wordsworth has broached it in your columns.

Since I have learnt that Mr. Wordsworth was inclined to connect a definite lesion of the eyeball with the habit of smoking, I have given attention to the question. The results at which I have been able to arrive are, however, much opposed to the views which he last week enunciated. I hope that, for the purposes of this inquiry, we may be allowed to discard the term "amaurosis" which has been imported into it. That is a phrase originating in the darker ages of ophthalmic science, and has been well defined as describing a condition in which the patient saw nothing, and the surgeon just as little. It included all those "obscure diseases" of the fundus of the eye in which the existence of disease was inferred from the loss of sight, but was beyond the reach of diagnosis.

Fortunately the fundus of the eyeball is no longer concealed from inspection, but with the aid of the means which modern physicists have placed at our disposal we can examine the optic papillæ, the retina, the choroid, and vitreous as readily as the cornea, and can read off their pathological changes. When, therefore, authors speak now of "tobacco as a cause of amaurosis," we may expect that they will be good enough to define the form of disease to which they apply that very indefinite term. Mr. Wordsworth, when speaking of amaurosis as the consequence of smoking, is of opinion that tobacco produces white atrophy of the optic nerve.

I have been unable to trace the connexion in any case of white atrophy which has come under my notice, and I cannot see that he supplies any satisfactory evidence which can be considered to support that view.

It will be observed that the tobacco disease of which he speaks in the clinical histories is in no way distinguishable from ordinary white atrophy; it seems, indeed, to be avowedly identical with that condition. Now in the first place, to those who will think over the pathology of that affection, it will not seem a very probable suggestion that tobacco-smoking should produce this specific degeneration, without first *very seriously* affecting the other parts of the nervous system, on which it undoubtedly acts more powerfully and directly.

Among the known causes of white atrophy of the optic nerve are cerebral effusion, tumours of the brain, structural changes of the thalami and corpora striata, &c. In order to ascertain whether tobacco-smoking has any claim to be ranked among the unknown causes, I have been examining with the ophthalmoscope all the inveterate smokers on whom I could lay hands among my patients and in a considerable acquaintance. I have not in any case found the least trace of or tendency to white atrophy. On the other hand, white atrophy is found in children and females as well as in adults and males. Of the six cases which have come under my notice recently, and in which I have investigated the question, not one was a regular or considerable smoker; two did not smoke at all. In a very distressing case of double white atrophy now under my care, in which the disease is gradually approaching its last stage and the sight nearly extinguished, the patient has been a very moderate smoker, only smoking when a friend dropped in. He has not derived any benefit from total abstinence. I invite Mr. Wordsworth to reconsider this question, and I believe that a further review of clinical evidence will lead him to the same conclusion as myself.

I am, Sir, your obedient servant,

Wimpole-street, Cavendish-square, July, 1863. ERNEST HART.

WORKHOUSE TREATMENT OF DELIRIUM TREMENS.

To the Editor of THE LANCET.

SIR,—A respectable tradesman and freeholder of the parish of Paddington, who was suffering from an attack of delirium tremens, was sent *pro tem.* by his friends to the workhouse, because he was unmanageable at home. After being in the infirmary there some hours, the patient, who was a large and powerful man, and who during that time was placed under the immediate care of an *elderly* man, became restless and violent. He was, upon thus becoming unruly, placed in the padded room, and left to his own devices from about eight A.M. till noon, when he died.

It transpired in evidence at the adjourned inquest, at which the writer was present, that the medical officer of the union, Dr. F. W. Mackenzie, knew nothing of this case till he went to the workhouse—at, I believe, his usual time of attendance—in the middle of the day. The Doctor, however, stated that the master of the workhouse never sends for him (a distance of about two miles) unless the patients in his judgment appear to require immediate attention. Dr. Mackenzie also approved of the course adopted towards the deceased, and spoke of it as the "new system" of treatment now successfully pursued (especially at the Paddington Workhouse) with patients who are suffering under the influence of delirium tremens. This new system, he said, is, "to allow the patients to get into a state of quietude before medicines are given." "Exhaustion" was the term once used by Dr. Mackenzie in his evidence. (Pray, Sir, is this "new system" the same as that adopted by Watson, Stokes, and others?)

The jury returned the following special verdict:—"That the deceased lost his life accidentally from a blow or fall; and the jury further say that when the deceased was brought into the Paddington Workhouse in a state of excitement from delirium tremens, he ought to have received medical attendance directly, and not to have been allowed to remain ten hours without any properly qualified medical attendance."

It was stated, as I understand, that the attendance of the medical man was but seldom required at the workhouse out of the usual course, because poor people went to hospitals, dispensaries, or any other place, rather than the workhouses, when requiring medical treatment. After what transpired at the above inquest, need we be much surprised that they only go to such places under the pressure of the most dire necessity?

I am, Sir, your most obedient servant,

Queen's-road, Bayswater, July, 1863. A. R. POWELL.

P.S.—It should be borne in mind that the deceased was admitted into the house by virtue of a certificate stating the nature of the case.

THE RIGHT HON. SIR CRESSWELL CRESSWELL.

AT seven minutes to seven on the evening of Wednesday the distinguished Judge of the Court of Probate and Divorce, Sir Cresswell Cresswell, suddenly expired. It is well known that he had recently met with a severe accident; but the injury which he then received, although it may have accelerated his decease by the severe shock which it undoubtedly inflicted on the system, does not appear to have had any direct share in the fatal result which has unexpectedly occurred. When violently thrown over by the runaway horses which broke from Lord Aveland's carriage, Sir Cresswell was found, on being raised from the ground, to be suffering from fracture of the knee-pan. This was not, however, a fracture from direct violence; but when examined by the surgeon summoned—Mr. James Lane, of St. Mary's Hospital—he found that from the nature of the fracture it was evidently one of those rare instances in which the knee-pan is rent by the sudden and violent action of the extensor muscles of the thigh, commonly in the effort to recover the balance of the body, and avoid falling. There was but little bruising—much less than might have been anticipated, and no other apparent injury. The fractured part was healing favourably; and Sir Cresswell bore the confinement with great equanimity, and was in good spirits throughout. Mr. James Lane and Mr. Charles Hawkins were in continuous attendance, and everything promised a speedy recovery. Properly devised splints having been adjusted, Sir Cresswell was able, with assistance, to shift himself from the bed to a couch, and had done so in the course of Wednesday. As he was being lifted in the evening from the couch again to the bed, with the assistance of his brother, the Rev. Oswald Cresswell, he complained of feeling faint, asked for wine, and

almost immediately died. He had always considered himself a specially healthy man; and was mentioning shortly after his accident that he had never had a day's illness, and had never consulted a physician, since he left school. He had lately become somewhat suddenly corpulent; but it was never suspected, by himself or any other person, that the hand of disease had seized him so firmly, though silently.

The post-mortem inspection was performed at seven P.M. on Thursday, by Mr. Chas. Hawkins, Mr. Jas. Lane, and Dr. Baber. The examination of the chest showed that the heart was the sole seat of disease. It was loaded with fat; the walls of the ventricular cavities were thin and weak, and the muscular fibres pale; the valves were competent. Throughout the rest of the body the organs were found in a healthy condition, although, in parts, much loaded with fat. On examining the knee-joint some blood was found effused between the fractured surfaces of the bone; there was no inflammation, irritation, or effusion, in the interior of the joint, but repair was going on satisfactorily. The cause of death was, doubtless, severe syncope, fatal because occurring in a weak heart fattily degenerated.

A circumstance occurred in connexion with the accident which, although by no means exceptional, deserves to be mentioned, as illustrating the admirable spirit in which our hospitals are administered, and the firmness and self-devotion with which the members of the medical profession perform their duties to the poor in those establishments. Sir Cresswell was overthrown within sight of St. George's Hospital, and a hasty message was sent there, stating that an accident had occurred to the distinguished Judge, and requesting that the house-surgeon might accompany him to his home. The house-surgeon, however, was then engaged in urgent duties of attendance upon poorer sufferers, and felt unable to leave his post. Other skilled attendance was immediately at hand. Such incidents are not rare, and we cannot but think that they reflect honour on our profession, and deserve to be widely known.

The death of this most eminent man and distinguished jurist, creates a vacancy on the judicial bench which it will be difficult to adequately fill. Sir Cresswell Cresswell combined in a high degree the qualifications essential for the exalted judicial position which for the last twenty-one years he has so worthily and ably occupied. Patient, painstaking, exact, impartial, and strict, he ever so held the scales of Justice that dissatisfaction was rarely expressed either with his rulings or decisions. He was educated at Emmanuel College, Cambridge, where he graduated in 1814. He was called to the bar at the Inner Temple in 1819, and at once commenced the active study of his profession. The Reports of Barnwell and Cresswell, extending from 1823 to 1832, secured to their authors high professional standing. For many years Sir Cresswell Cresswell practised on the Northern Circuit. In 1834 he obtained the rank of King's Counsel. In 1837 he was returned to Parliament as member for Liverpool. In 1842 he was raised to the bench as Justice of the Common Pleas, in which court he sat for a period of sixteen years. And, in January, 1858, he was appointed a Judge of the Court of Probate, as also Judge of the Court for Divorce and Matrimonial Causes. It is as Judge of the latter that Sir Cresswell Cresswell is entitled to the highest eulogy. By the system he has founded, the rules of practice he has introduced, the learning and experience he has brought to bear on the formation of its jurisdiction, a Court which, in less able hands, might have proved the source of much mischief, has been rendered a valuable institution. In it the principles of English law are brought to the regulation of domestic relations, without permitting the obligations of marriage to be rendered matters of convenience within the control of those desirous of their repudiation. On accepting this office Sir Cresswell Cresswell was created a Privy Councillor, and might have obtained even higher honours had his ambition so dictated.

As a Judge in matters involving the subtleties of jurisprudential differences Sir Cresswell Cresswell stood deservedly in the first place. His summing-up in the case of Hopwood *v.* Hopwood is a masterpiece of sound argument. His presence at Palmer's trial had no inconsiderable influence on its issue. His several decisions in the varied probate cases which within the last five years have been determined in his court must ever remain as precedents of logical reasoning and just conclusions. In the many medico-legal trials at which he has presided, it may be observed that his estimate of medical evidence was ever regulated by a consideration of its inherent difficulties; while towards medical practitioners his bearing was uniformly respectful, although at times, to those who were not aware of the character of the Judge, it may have appeared captious. We repeat, his is a loss that cannot be easily supplied.

MEDICAL TRIALS.

WESTERN CIRCUIT.—DORCHESTER, JULY 24TH.

NISI PRIUS COURT.—(*Before* Lord Chief Justice ERLE, *and a Special Jury.*)

WHITE *v.* HARSTON.

Mr. Collier, Q.C., and Mr. Kingdon were counsel for the plaintiff; and Mr. Coleridge, Q.C., and Mr. Ffooks for the defendant.

The plaintiff in the action was a surgeon who had resided and practised for about twelve years in the town of Sherborne, and during the whole of that time he had been surgeon to the guardians of the poor. The defendant was the Vicar of Sherborne. There had been some misunderstanding between the plaintiff and the defendant as far back as 1856; at all events, they were not on friendly terms, owing, it would seem, to the High Church practices of the defendant. The plaintiff, however, in April, 1856, wrote a letter to the defendant, expressing his regret that there should have been any unpleasant feelings existing between them, and hoped that they would henceforth live on more friendly terms. To this the defendant replied, also expressing regret that there should have been any differences between them, and saying that he should shortly call upon the plaintiff, and he hoped that everything would go on pleasantly in future. The defendant accordingly called upon the plaintiff, when a conversation took place, in which the defendant said he wished the plaintiff would attend his church. The plaintiff replied, "That he should be most willing to co-operate with the defendant in all parochial business, but he could not go to church, as he disapproved the mummeries," or something to that effect. Unfortunately, that seemed to have opened all the old wounds, and bickering again commenced. A principal cause of difference was that the defendant wanted the plaintiff to sign certificates for the admission of the pauper patients to the hospital at Salisbury and other places, but the plaintiff, on many occasions, had refused to do this. It would seem that the plaintiff acted under a great deal of responsibility in signing such certificate, for if the patients were husbands and fathers, their wives and families were left behind to be maintained by the guardians of the poor. The plaintiff was under the impression that the defendant was watching him, in consequence of some statements which the defendant had made a year before, when a child named Bryant died, and a Mr. Phillips, one of the defendant's curates, pressed hard for a coroner's inquest to be held, on the ground that the child had died through the neglect of the plaintiff. Shortly after that the plaintiff, on meeting the defendant, referred to the curate's conduct, when the defendant said, "Well, I do not know much about this case, because I was away; but I would have you take warning that I am on the look-out for you, and, if I can find a case against you, I will bring it before the Board." This unfriendly state of things continued until the cause of the present action arose, under the following circumstances:—A pauper named Crocker had been very ill. The plaintiff treated him as he thought the nature of the case required, prescribing arrowroot and sugar and some mild wines. An application was made to the plaintiff to give a certificate for the removal of the patient to Salisbury, but the plaintiff was of opinion that the patient was not in a fit state to be removed, and he therefore was unwilling to give the certificate. Unfortunately, Crocker died. Shortly after this occurred the defendant wrote to the Board of Guardians, complaining of the plaintiff's conduct, and he sent a copy of that letter to the plaintiff. The Board, having instituted an inquiry into the matter, thought it was not a case for any further interference on their part, and wrote to the defendant to that effect. The defendant, not being satisfied with this, wrote to the Secretary of the Poor-law Board the following letter, which constituted the libel on which the action was brought:—

"It is my painful duty to bring under your notice the conduct of Mr. White, medical officer of this town, towards a pauper patient, which resulted in the man's death at the age of forty-five. The circumstances came to my knowledge in the ordinary course of my clerical duties, and I immediately communicated with the Chairman of our Board of Guardians in reference to them. A copy of the correspondence is enclosed herewith. It appears that Mr. White distrusted the man's statement that he was seriously ill; for I am informed that he wrote the word 'doubtful' against the case in his book, and, although strong representations to the contrary were made to Mr. White by persons capable of judging, and who bore wit-

ness to the reality of his illness, Mr. White adhered to his opinion (as two persons can prove) that there was little or nothing the matter with the man, until conviction was forced upon his mind too late to benefit the patient, for he died within the week. The Board of Guardians inform me that they have made inquiry of Mr. White, and that in their opinion the case does not require further interference on their part, as I understand that he denied having said that there was little or nothing the matter with the man, and, as the Board made no inquiries of the other parties to the case, you will perceive that Mr. White's denial is open to doubt. I must not conceal from you that much dissatisfaction exists in this parish with regard to Mr. White's treatment of the sick poor. It is true that the present case is beyond remedy, but the main object of this letter will have been obtained if it results, as I hope, in an improved treatment of the sick paupers in future."

The plaintiff was called to deny the imputations contained in the libel, and was examined and cross-examined at very great length. At last his book, containing the report of the plaintiff to the Board of Guardians, was produced, and from that we give an extract copied from the book itself, which certainly presents a state of things most horrible, and it is to be hoped unique:—

"Case.—Flora and Edwin Brown, respective ages fourteen and fifteen years, are sleeping in the same bed. I am not aware why Mr. Dinford, the relieving officer, has refused to give orders for the above-named children after my having desired the mother to go to him. Mr. Kite refused the same party when in office. I believe the cause of refusal was that there was only one ill, the father having a very good business and his wife helping him in the binding of shoes.

"S. WHITE.

"The boy that is recovering should be removed into another room; I have pressed this, but no attention is paid to it. Notwithstanding all the remonstrances used to get the parents to remove Flora out of her brother's bed, I found her in the same bed, beside the corpse of her brother, who died January 16; the girl died this afternoon, January 20. The mother is ill, and in a very precarious state. There is an offensive sink close to the house, requiring attention from the authorities.

"S. WHITE."

Mr. Coleridge having addressed the jury on behalf of the defendant, witnesses were called with a view of showing—first, that the defendant had acted *bonâ fide* from a conscientious belief that what he had stated was true; and then to show that the plaintiff was harsh in his treatment of the paupers, and neglected them.

The LORD CHIEF JUSTICE, in summing up, laid down the law that, if the defendant acted *bonâ fide*, and from an honest belief that what he wrote was true, his communication was privileged, unless it could be shown that the defendant had been actuated by malice.

The jury retired for an hour and twenty minutes, and then gave a verdict for the defendant, but without costs; at the same time they could not help expressing their regret that the defendant should have written to the Poor-law Board a letter liable to such uncharitable constructions against the plaintiff.

NOTTINGHAM, JULY 22ND.

(*Before* Mr. Justice WILLIAMS.)

BENNETT v. HICKSON.

In December, 1858, Mr. Thomas Langley Beardsall, a medical practitioner residing at Worksop, died, leaving as executors his brother, Mr. Wm. George Beardsall, also a medical practitioner residing at the same place, and the present defendant, Mr. John Hickson, a surveyor. These executors decided to dispose of the practice of the deceased, and it was deemed proper that Mr. Hickson should alone conduct the transaction. It was eventually sold to the plaintiff, Mr. E. Bennett, the price being reduced from £600 to £400, half being paid down, and the remainder to be paid in two yearly instalments. This agreement was entered into on the 3rd of March, 1859, soon after which Mr. Bennett entered on the practice, which did not turn out to be so profitable as was expected. Although it was admitted that Mr. Hickson had entirely performed the agreement so far as himself was concerned, it was alleged that his co-executor had not endeavoured to establish the plaintiff in the testator's practice; but, on the contrary, had injured him therein, and that in consequence of his stating that Mr. Bennett's charges were high, he had secured some of the testator's patients to himself. He had also become medical attendant to an Odd Fellows' Club, which had been attended by the testator; also to a sick club.

The defence was that the plaintiff had had all that was intended to be given to him in the agreement, that it was never contemplated that Mr. W. G. Beardsall should use active exertions to establish a rival, that he was elected medical officer of the Odd Fellows' Club, being himself a member, and that as the other club referred to was not attended by the testator, it was open to him to solicit the post of medical officer.

His Lordship, in charging the jury, said that Mr. Hickson had done all that he could to introduce the plaintiff to the practice; he was nevertheless bound by the acts of his co-executor, and that the acts of Mr. W. G. Beardsall could hardly be looked upon as acts likely to assist the plaintiff in succeeding to the testator's practice.

The jury found a verdict for the plaintiff, with £100 damages.

OXFORD CIRCUIT.—WORCESTER, JULY 20TH.

CIVIL COURT.—(*Before* Mr. Justice BYLES *and a Special Jury.*)

LEA v. THE LONDON AND NORTH-WESTERN RAILWAY COMPANY.

An action was tried at Worcester, on the 20th ultimo, against the London and North-Western Railway Company for compensation arising from injuries, the effect of a collision at Tipton, in July, 1862. The medical evidence was conflicting. Mr. Lea, the plaintiff, lay in a recumbent position while in court. The evidence of Mr. Hicks, Mr. J. S. Fletcher (the plaintiff's medical attendant), Mr. Carden, of Worcester, and Dr. Bell Fletcher, of Birmingham, proved that the plaintiff had received permanent injury to the system and had exhibited symptoms of tetanus, that his brain was affected so that he could not cast up figures, that he had paralysis of the arm and leg, that his spine was injured, that there was effusion of blood in the chest and in the brain, that he had an intermittent pulse, and that after being kept quiet and in a recumbent position he exhibited no signs of recovery. On the other hand, Mr. Pemberton and Mr. Baker, two hospital surgeons of Birmingham, and the company's medical officers of the district, said that the case was one rather for a surgeon than a physician, that the plaintiff had received a severe shock to the system, that they could detect no structural change in the brain, that the spine was not injured, as there was no derangment of the urinary organs, and that there was no paralysis, either partial or complete, of the parts below the seat of the injury, nor any wasting away; that the intermittent pulse was caused by a long continuance in a recumbent position, and that he would soon recover. They considered that he had been wrongly treated, and that if he had been allowed to take active exercise he would have been able to transact business.

The learned Judge said that if the plaintiff were likely soon to recover, heavy damages would only be a robbery of the company, so that the jury must decide whether they thought the injuries were of a permanent or temporary character, and find accordingly.

The jury eventually found for the plaintiff, damages £2000.

Parliamentary Intelligence.

HOUSE OF LORDS.

FRIDAY, JULY 24TH.

THE Earl of SHAFTESBURY, in an able speech, called attention to the Report of the Childrens' Employment Commission. He dwelt at length upon the cruelties and hardships involved in the present manner of conducting various trades, numbering upwards of 27,000 children of tender years, and expressed his intention of introducing remedial enactments, bearing upon the Report, in the course of next session.

HOUSE OF COMMONS.

FRIDAY, JULY 24TH.

CONDITION OF MILLINERS AND DRESSMAKERS.

Mr. KINNAIRD asked the Secretary of State for the Home Department whether he would give directions that the Childrens' Employment Commissioners should institute, as soon as possible, the inquiry already referred to them, into the condition of the milliners and dressmakers.

Sir G. GREY said he did not know exactly on what branch of the inquiry the Commissioners were now engaged, but he would

desire them to take up the condition of the milliners and dressmakers as soon as they could, without interfering with any important question now before them.

DISEASE AMONG SHEEP.

Mr. D. GRIFFITH called attention to the outbreak of disease among sheep in the West of England during the summer and autumn of last year. He described the first appearance of the disease on a farm in the neighbourhood of Devizes, in Wiltshire, stated that the remedy recommended by Professor Simonds—inoculation—proved a failure, and narrated how the malady spread until it was arrested by Professor Gamgee, of Edinburgh, who substituted separation for inoculation. The results both of the practice of separation instead of inoculation, and of vaccination as a *dernier ressort*, were highly successful as far as present experience went. It was a year since this disease broke out; surely some conclusion as to the means of preventing this disease must have been arrived at by the gentlemen who had conducted the experiments for the Government! The hon. member concluded by asking the question of which he had given notice—viz., whether the Government intended to take any steps for the prevention of the practice of the inoculation of sheep with the virus of sheep small-pox, or "variola ovina," for the presumed object of mitigating the disease, on the principle of the actual prohibition in force against such practice in the case of the human subject; and what had been the results of the Government experiments of trying the effects of vaccination as a preventive of the sheep small-pox on a certain number of sheep obtained by the Government for that purpose.

Mr. LOWE regretted to say that the experiments which had been tried as to the vaccination of sheep by Mr. Marsden and Professor Simonds during the last six months had turned out unsatisfactorily. Had they proved satisfactory they would have been terminated before now; but before a negative decision was pronounced many attempts had, of course, to be made. He therefore could give no decisive answer as to these experiments, except that they afforded little hope of extending to sheep or any other animal the same remedy as was found efficacious in the case of the human subject. As to inoculation, the experience of the late epidemic in Wiltshire was much against it, because in those flocks where inoculation was used twenty per cent. of the sheep died, whereas in those where it was not used only 1·6 died. It was a question, however, whether it would be right absolutely to prohibit a man from inoculating sheep which were his own property, provided he took the precaution of separating them from other sheep in order to prevent the spread of the disease. But that question must be considered in connexion with the general question of the diseases of cattle, which would have to be examined during the recess. He might, however, observe that there was reason to believe that farmers could not do a more imprudent thing than to inoculate their sheep. (Hear, hear.)

INFANTICIDE.

Mr. COX drew attention to the prevalence of infanticide, and suggested remedies which Sir George Grey thought ineffective, but promised to consider the subject in the recess.

THE CASE OF STAFF-SURGEON EATON.

Mr. CONINGHAM asked the Under-Secretary of State for War why Staff Surgeon Deodatus William Eaton was dismissed while on sick leave, after eighteen years' service, ten of which were in the East and West Indies, without any previous warning, with no charge assigned, nor with any opportunity of explanation before either a court of inquiry or a court martial; also, why had not a court-martial been granted, and why had the applications for it by Mr. Eaton been ignored?

The Marquis of HARTINGTON said that it was usually, though not invariably, considered that an officer who became bankrupt, and was obliged to seek the protection of the Bankruptcy Court, was not a fit person to hold the Queen's commission. In the case alluded to by the hon. member, Staff-Surgeon Eaton became bankrupt, and the circumstances which came out before the Bankruptcy Court were brought in the ordinary way to the attention of the then Secretary for War, Sir G. Lewis, who, after considering the facts, did not see any reason why the usual practice should be departed from. Under these circumstances, no court-martial or inquiry was necessary, because the fact of the bankruptcy was sufficiently established by the proceedings of the Bankruptcy Court.

*** The correspondence relating to this case has been placed before us, but it is not one on which we could enter with advantage to general interests.—ED. L.

Medical News.

ROYAL COLLEGE OF SURGEONS OF ENGLAND. — The following gentlemen, having undergone the necessary examinations for the diploma, were admitted Members of the College at a meeting of the Court of Examiners on July 28th:—

Atkinson, Warner, B.A. Lond., Harrington-square.
Barrow, Thomas Samuel, M.D. St. Andrews, Chelsea.
Booth, William Reuben, Great Queen-street, Westminster.
Cornish, George Bishop, Taunton.
Folliott, James, Canonbury.
Frost, Walter, Portland.
Haynes, Stanley Lewis, Pall-mall.
Hills, Rowland, Newcastle-on-Tyne.
Hughes, David, Cilian Ayron, Cardiganshire.
Hughes, William, Eglwyswrw, Pembrokeshire.
Jackson, Henry Willan, Cumberland-terrace, Regent's-park.
James, Joshua, Bristol.
Kennedy, John, Edinburgh.
Knott, William Parsons, Billesworth, Northamptonshire.
Lisle, Richard Philip, Cardiff.
Meade, Warren, Midleton, Co. Cork.
Meyrick, Edward Webber Warren, Cork.
Renshaw, Chas. Jeremiah, M.D. St. Andrews, Ashton Mercy, near Manchester.
Rodgers, John, Omagh, Co. Tyrone.
Scott, Thomas, Omagh, Co. Tyrone.
Simpson, Walter, Islington.
Thyne, Thomas, Edinburgh.
Watson, James Jonathan, Kilburn.
Whiteley, John, Wakefield.
Wright, Morden, Islington.

The following gentlemen were admitted on July 29th:—

Atkinson, Frederick Page, L.S.A., Romney-terrace, Westminster.
Blake, Edward Thomas, Taunton.
Bottle, Alexander, Dover.
Brewster, Edward, Grantham.
Brietzcke, Henry, H.M. Dockyard, Deptford.
Bullmore, Charles Forrester, Falmouth.
Butcher, Henry Osborne Fawcett, Ware, Herts.
Coates, Frederick William, Salisbury.
Court, Josiah, Warwick.
Davenport, William, Kidsgrove, Staffordshire.
Fleming, John, Ulverstone.
Haden, Edward Cresswell, Dudley, Worcestershire.
Hughes, William Frederick, Barnsbury.
Jones, John Thomas, L.S.A., Tremadoc, Carnarvonshire.
Lowe, Robert Whitting on, Edinburgh.
Mickley, Arthur George, Buntingford.
Morley, Frederic, Bicker, Lincolnshire.
Morris, Joseph, Birmingham.
Parkes, Henry M'Kenzie, Woolwich.
Paull, Charton Gillman, Amsterdam.
Soper, Robert Wills, Dartmouth.
Starling, George, Old Charlton.
Ure, John, Birmingham.
Wilson, Henry, Ulverstone.

LICENTIATES IN DENTISTRY. — The following gentlemen, having undergone the necessary examinations, received the diploma in Dental Surgery at a meeting of the Board on the 27th of July:—

Bonnalie, George, Chester.
Bridgman, Francis George, Norwich.
Cole, John Penn, Ipswich.
Didsbury, John Montague, Paris.
Goddard, William, Nottingham.
Hare, George Frederick, Limerick.
Lindup, George, Kensington.
Margetson, William, Dewsbury.
Ollive, Henry John, Oakley-street, Chelsea.
Smith, John Alexander, Smith-street, Chelsea.
Tanner, Thomas, Manchester.
Wallis, George, Great Marlborough-street.
Weaver, George, Upper Baker-street.

APOTHECARIES' HALL.—The following gentlemen passed their examination in the Science and Practice of Medicine, and received certificates to practise, on the 23rd ult.:—

Atherton, Ebenezer, Bingley, Yorkshire.
Carter, William, Newbury, Berks.
Grewcock, John Baily, Falkingham, Lincolnshire.
Jeffery, Edward, Nantyglo, Wales.
Lisle, Richard Philip, Cardiff.
Moore, William Daly, Dublin.

The following gentlemen also on the same day passed their first examination:—

Coats, George Alexander Augustus, St. Bartholomew's Hospital.
Green, Thomas Henry, University College Hospital.
Jackson, George, University College Hospital.
Knight, Charles Frederick, Charing-cross Hospital.
Knott, Thomas Henry, Guy's Hospital.
Langworthy, George Vincent, St. Bartholomew's Hospital.
Lush, William George Vawdery, St. Bartholomew's Hospital.
Read, Charles, University College Hospital.
Viant, Henry, Guy's Hospital.

The following gentlemen passed their examination on the 28th ult.:—

Burn, John, Dartford, Kent.
Coombs, Carey Pearce, Frome, Somersetshire.

Fernandes, Albert Luis, Sandal Magna, Yorkshire.
Fry, John Blount, General Hospital, Birmingham.
Gannon, John Palmer, London.
Jones, John Thomas, Tremadoc, North Wales.
Martindale, John Walker, Windermere.
Mudge, Belling Harvey, Bodmin, Cornwall.
Ringrose, Basil, Potter's-bar, Middlesex.
Shillitoe, Richard, Hitchin, Herts.

The following gentlemen also on the same day passed their first examination :—

Broughton, Henry, Guy's Hospital.
Craigie, John, London Hospital.
Dawson, Henry, Guy's Hospital.
Ensor, John Arthur, Guy's Hospital.
Evans, John Tasker, St. Bartholomew's Hospital.
Long, Charles Frederick, Guy's Hospital.
Manser, Frederick, Guy's Hospital.
Steel, Henry Octavius, Guy's Hospital.

THE KING OF THE BELGIANS.—The statement circulated in the daily press, and copied from a Brussels journal, as to the alleged great honours bestowed on Mr. Henry Thompson for his recent successful treatment of King Leopold is unauthorized, and is not known here to have any foundation on fact.

CITY OF LONDON SCHOOL.—On Friday last, the St. Thomas's Medical Scholarship was awarded to John James Ridge.

MR. BOWLES FRANKLYN, surgeon of the 10th Regiment, has received the cross of the Order of St. Maurice from King Victor Emmanuel, in acknowledgment of his services in the hospitals in the cause of Italy during the late war.

MEDICAL MUNICIPAL HONOURS.—Dr. Thomas Jervis, of Connaught-square, has been appointed a Justice of the Peace for the county of Middlesex, and for the City and Liberty of Westminster.

HUDDERSFIELD INFIRMARY.—At the annual meeting on the 26th ultimo, the portrait of Dr. Turnbull was hung up in the board-room. It has been painted by subscription among the governors, in testimony of his long and valuable services. The likeness is excellent, and does great credit to the artist, Mr. Tomlinson.

FATAL ACCIDENT TO A MEDICAL PRACTITIONER.—On Saturday last, Mr. G. O. Munton, of Bourne, while out visiting his patients, fell from his horse: the accident produced a concussion on the brain, from which he died in two hours. Mr. Munton has been upwards of twenty years a practitioner at Bourne.

MEDICAL HONOURS.—M. le Docteur Muraoun, who was formerly surgeon of the *Inconstant*, which conveyed Napoleon I. from the Island of Elba to France, has just been created officer of the Legion of Honour.

THE ROYAL COLLEGE OF PHYSICIANS.—The president and fellows of the Royal College of Physicians held a select scientific *conversazione* at their rooms in Pall-mall East on the 25th ultimo. Numerous specimens illustrative of the arts and sciences were shown in the library. At one end of the room a splendid collection of candelabra, vases, inkstands, and other objects of art in aluminium and aluminium bronze were exhibited by Messrs. Mappin Brothers, accompanied by several ingots and bars of the metal and its alloys in the unmanufactured condition. Some large lumps of the new metal thallium, contributed by its discoverer, Mr. W. Crookes, attracted a large amount of attention, and Mr. Sonstadt showed several pieces of magnesium prepared by the modification of Deville's process, lately patented by him. Mr. Appold exhibited his apparatus for freezing water; and Mr. C. Gore's new gas furnace, with which several pounds of cast-iron or copper may be melted on a drawing-room table in a few minutes without a blast, was examined with great interest by the scientific men present. Dr. Lionel Beale's microscopic preparations of the brain met with considerable professional patronage, and the exhibition of the circulation of the cell contents of different water-plants through Messrs. Powell and Lealand's 1·25 inch microscopic object glasses was crowded with observers throughout the evening. Several harpoons and other weapons used in elephant-hunting in Central Africa were sent by Mr. Frank Buckland; and Mr. John Leighton exhibited a beautifully executed design for a shield, illustrating the months and seasons of the year, which was greatly admired for its poetic treatment and classical simplicity. Although the season is so far advanced, the *soirée* was attended by a great number of the most eminent of the medical profession in London. Refreshments were served in the lower hall, and the company did not separate until nearly midnight.

THE ESSEX AND HERTS BENEVOLENT MEDICAL SOCIETY.—At a general court of auditors, held at Chelmsford, on Monday, the 20th ultimo, it was stated that since the formation of the Society in 1786 upwards of £22,000 had been received, and upwards of £18,000 had been expended in carrying out its benevolent intentions. The balance in hand is £8,000.

CERTIFICATES OF VACCINATION.—Mr. Hall, one of the surgeons of the Cambridge Union, having refused to comply with the request of the board of guardians that he should furnish certificates of vaccination in cases in which he had performed that operation, came to a resolution at a recent meeting to institute a prosecution against him under the provisions of the Vaccination Act. Mr. Hall, however, having ascertained his liability, has consented to supply the certificates, and has agreed to pay £5 towards expenses incurred.

CHARING-CROSS HOSPITAL COLLEGE OF MEDICINE.—The annual distribution of the prizes took place on Monday, July 27th. The following gentlemen were the successful candidates:—*Anatomy:* Silver medal, Mr. Chas. Fred. Knight. First certificate, Mr. Henry Willson; second ditto, Mr. Fred. Le Fevre Milburn; third ditto, Mr. John Wm. Jones. Bronze medal, Mr. Wm. G. Sutcliffe. Certificates, Mr. A. R. Verity and Mr. R. Y. V. Packman.—*Chemistry:* Silver medal, Mr. Other Windsor Berry.—*Medicine:* Certificates, Mr. Thomas Langston and Mr. C. F. Knight.—*Physiology:* Silver medal, Mr. C. F. Knight; Bronze medal, Mr. O. W. Berry.—*Surgery:* Silver medal, Mr. Edward Dyer; Certificate and Book, Mr. Wm. Burt Shorto; Bronze medal, Mr. Wm. G. Sutcliffe.—*Materia Medica:* Silver medal, Mr. Allen Fennering; Certificate, Mr. H. Willson.—*Botany:* Silver medal, Mr. O. W. Berry.—*Midwifery:* Silver medal, Mr. J. H. Simpson; Certificate, Mr. W. H. Cape.—*Forensic Medicine:* Silver medal, Mr. J. H. Simpson; Certificate, Mr. W. H. Cape.

HEALTH OF LONDON DURING THE WEEK ENDING JULY 25.—With the progress of the summer months the mortality continues to rise, in consequence of the increase of the diarrhœa or cholera, fatal chiefly to infants, that is peculiar to the season. The deaths in the three weeks ending 18th July were successively 1186, 1287, and 1364. In the week that ended last Saturday a further increase occurred, and 1452 is the result. The deaths from diarrhœa rose to 233 last week, of which 178 were amongst infants less than a twelvemonth old. Besides the number reckoned under "diarrhœa" there were 20 from cholera, two of which cases were returned as "Asiatic." There is reason to hope that the further spread of small-pox in the metropolis has been checked. The deaths by it, returned last week, declined to 34, which is lower than any previous weekly number since the end of March. A seventh part of the mortality from this disease in the week occurred to persons who are stated to have been vaccinated. There were 110 deaths from scarlatina.

Births last week—Boys, 994; girls, 898. Total, 1892.

MEDICAL APPOINTMENTS.

T. H. BARNES, M.D., has been appointed House-Surgeon to the Dispensary, Newark-on-Trent, vice J. Cheesman, M.D., resigned.

A. BOWES has been appointed Dispenser to the Hospital for Sick Children, Great Ormond-street, vice W. Gloyne, deceased.

D. DAVIES, L.R.C.P.Ed., has been appointed Medical Officer and Public Vaccinator for the Aberdare-town District of the Merthyr Tydvil Union, Glamorganshire.

W. DAVIES, M.R.C.S.E., has been appointed Medical Officer and Public Vaccinator for the Penderyn District of the Merthyr Tydvil Union.

J. EDMUNDSON, M.D., has been appointed Assistant Resident Medical Officer to the Clonmel Auxiliary District Lunatic Asylum.

J. FAWTHROP, M.R.C.S.E., has been elected Medical Officer and Public Vaccinator for the Clayton District and the Workhouse of the North Bierley Union, Yorkshire, vice J. Fawthrop, L.S.A., deceased.

G. FYFE, M.D., has been appointed Medical Officer and Public Vaccinator for the Kineton District of the Stratford-on-Avon Union, vice J. H. Lakin, M.B., appointed Medical Officer and Public Vaccinator for the Sutton Coldfield District of the Aston Union.

M. H. GRATTAN, M.D., has been appointed Medical Officer and Public Vaccinator for District No. 4 of the Ongar Union, Essex, vice J. Shilletoe, M.R.C.S.E., whose appointment has expired.

E. HIGINBOTHAM, M.D., has been appointed Medical Officer and Public Vaccinator for the Bruton District of the Wincanton Union, Somersetshire, vice T. V. Saunders, L.S.A., resigned.

G. O. HOPTON, M.D., has been appointed Medical Officer to the E Division of the Metropolitan Police.

T. F. JORDAN, M.R.C.S.E., has been appointed Surgeon to the Queen's Hospital, Birmingham, on the retirement of W. Sands Cox, F.R.S., F.R.C.S.E., on the expiration of his term of office.

J. M'KAY, M.D., has been re-elected Medical Officer for the Eastern Division of the Parish of Birse, Aberdeenshire.

J. MACKENZIE, M.D., has been elected Medical Officer for the Parish of Toroway, Argyleshire, vice J. Ferguson, M.D., resigned.

H. MACKLEY, L.F.P. & S. Glas., has been appointed Medical Officer and Public Vaccinator for the Wilsden District of the North Bierley Union, and Certifying Factory Surgeon for the Wilsden District, vice T. Mackley, L.S.A., deceased.

S. MARTYN, M.D., on the expiration of his period of service, has been re-elected Physician to the Bristol General Hospital.

A. J. NEWMAN, M.R.C.S., has been appointed House-Surgeon to the North Devon Infirmary, Barnstaple.

J. L. ROBERTS, M.R.C.S.E., has been appointed Medical Officer and Public Vaccinator for the Aberdare Upper Village District of the Merthyr Tydvil Union.

J. D. ROBERTSON, M.D., has been elected Parochial Medical Officer for Kirkpatrick-Durham, Kircudbrightshire, vice A. Wylie, M.D., appointed Medical Officer for the Borough District of the Walsall Union.

W. REES, M.R.C.S.E., has been appointed Medical Officer and Public Vaccinator for the Rhigos District of the Merthyr Tydvil Union.

W. J. SANDELS, L.F.P. & S. Glas., has been elected Medical Officer for the Lisnaskea Dispensary District of the Lisnaskea Union, Co. Fermanagh, vice A. Hunt, L.R.C.S.I., appointed Medical Officer to the Infirmary and Fever Hospital of the Dungarvon Union, Co. Waterford.

H. J. SHIELEY, F.R.C.S.E., has been appointed Medical Officer for the Bedfield District of the Hoxne Union, Suffolk, vice R. Gross, M.R.C.S.E., and E. B. Lock, M.R.C.S.E., resigned.

Dr. J. SMITH, F.R.C.S.E., has been appointed Dental Surgeon to the Royal Infirmary of Edinburgh.

G. TAYLOR, M.D., has been appointed Surgeon to attend to the treatment of Physicians' Cases only at the Derbyshire General Infirmary, consequent upon the resignation of O. B. Shore, M.D.

R. DUNDAS THOMSON, M.D., F.R.S., has been elected President of the Metropolitan Association of Medical Officers of Health for the third year.

H. VRASEY, F.R.C.S.E., has been elected President for the next year of the South Midland Branch of the British Medical Association.

R. WALKER, M.R.C.S.E., has been appointed Medical Officer for the Kimberworth District of the Rotherham Union, Yorkshire, vice Erasmus Stone, L.R.C.P.Ed., resigned.

W. R. WATSON, L.R.C.S.Ed., has been elected Medical Officer for the Western Dision of the Parish of Birse, Aberdeenshire, vice J. Gerrard, M.R.C.S.E., deceased.

T. C. WHITE, M.R.C.S.E., has been appointed Hon. Surgeon-Dentist to the Royal Pimlico Dispensary, vice J. Littlewood, L.D.S. R.C.S.E., resigned.

MILITARY AND NAVAL MEDICAL APPOINTMENTS.

R. M. ALLEN, M.R.C.S.E., Surgeon 3rd Dragoon Guards, having completed a period of twenty years' full-pay service, has been promoted to Surgeon-Major, under the provisions of the Royal Warrant of Oct. 1st, 1858.

W. ARMSTRONG, Staff Assist.-Surg., has been appointed Assist.-Surgeon to the 25th Foot.

J. W. ARNOTT, M.R.C.S.E., Assist.-Surgeon R.N. May 13th, 1862, has been appointed to the "Liffey."

T. BELL, M.D., Staff Assist.-Surg., has been appointed Assist.-Surgeon to the 30th Foot.

T. BARNWELL, Staff Assist.-Surg., has been appointed Assist.-Surg. to the Rifle Brigade, vice Baly, appointed to the Staff.

E. J. BOULTON, Assist.-Surg. 2nd West India Regiment, has been appointed Staff Assist.-Surg.

T. CANN, M.D., Assist.-Surg. R.N. July 6th, 1860, has been appointed to the "Recruit."

G. CARDELL, M.R.C.S.E., Assist.-Surg. 3rd West India Regiment, has been appointed Staff Assist.-Surg.

G. A. DAVIDSON, L.R.C.S.I., Assist.-Surg. 1st West India Regiment, has been appointed Staff Assist.-Surg.

T. P. FLYNN, L.K.Q.C.P.I., Assist.-Surg. 4th West India Regiment, has been appointed Staff Assist.-Surg.

E. B. GRANT, M.D., Assist.-Surgeon 4th West India Regiment, has been appointed Staff Assist.-Surg.

J. GERIG, M.D., Assist.-Surg. 2nd West India Regiment, has been appointed Staff Assist.-Surg.

W. HENSMAN, M.R.C.S.E., Staff Assist.-Surgeon, has been appointed Assist.-Surg. to the 20th Foot.

J. LAND, M.D., Staff Assist.-Surg., has been appointed Assist.-Surg. to the 21st Foot.

P. A. M'DERMOTT, L.R.C.P.Ed., Surg. 3rd West India Regiment, has been appointed Staff Surg.

D. M'IVER, M.D., Acting Assist.-Surgeon R.N., has been appointed to the "Rattlesnake."

C. MARTIN, M.R.C.S.E., Surg. 2nd West India Regiment, has been appointed Staff Surg.

A. MORPHEW, M.R.C.S.E., Surg. 1st West India Regiment, has been appointed Staff Surgeon.

H. F. NATHAN, M.R.C.S.E., Assist.-Surg. R.N. June 16th, 1863, has been appointed to the "Hibernia" for Malta Hospital.

K. J. PARR, L.R.C.S.Ed., Assist.-Surg. 1st West India Regiment, has been appointed Staff Assist.-Surgeon.

W. SERRE, M.D., Surgeon 4th West India Regiment, has been appointed Staff Surgeon.

J. WALES, Assist.-Surgeon 2nd West India Regiment, has been appointed Staff Assist.-Surgeon.

H. WALKER, Staff Assist.-Surgeon, has been appointed Assist.-Surgeon to the 19th Foot.

J. WHITAKER, Acting Assist.-Surg. R.N., has been appointed to the "Rattlesnake."

A. W. WHITLEY, L.K.Q.C.P.I., Acting Assist.-Surgeon R.N. June 10th, 1863, has been appointed to the "Geyser."

Births, Marriages, and Deaths.

BIRTHS.

On the 23rd of May, at Serignuggar, Cashmere, the wife of Dr. A. M. Vercheve, Indian Service, Resident Medical Officer in Cashmere, of a daughter.

On the 9th of June, at Secunderabad, East Indies, the wife of E. F. O'Leary, M.R.C.S.E., Assist.-Surg. Royal Artillery, of a daughter.

On the 7th ult., at the Royal Dockyard, Chatham, the wife of J. R. Holman, M.D., of a son.

On the 24th ult., at Canonbury-square, the wife of A. Simpson, M.D., of a son.

On the 25th ult., at Old Steyne, Brighton, the wife of Dr. Ormerod, of a daughter.

On the 26th ult., at St. John's Park-road, Haverstock-hill, the wife of Dr. E. Adams, of a son.

On the 26th ult., at Claremont-square, Pentonville, the wife of Dr. Sheehy, of a daughter.

On the 26th ult., at Gloucester, the wife of R. W. Batten, M.D., of a son.

On the 26th ult., at Avonhill-hill, Midford, near Bath, the wife of J. G. Welch, M.D., of a son.

On the 27th ult., at Kineton, Warwickshire, the wife of W. J. Addison, M.R.C.S.E., of a son.

On the 27th ult., at Margate, the wife of R. Henry Milson, M.R.C.S.E., of a daughter.

On the 28th ult., at Tangier House, Taunton, the wife of H. J. Alford, M.B., of a daughter.

MARRIAGES.

On the 21st ult., at St. John's, Hackney, J. T. Sercombe, M.D., of Terrington, Norfolk, to Elizabeth M., daughter of the late T. Cleet, Esq., of Lower Clapton.

On the 22nd ult., at Leeds, A. Wadsworth, M.R.C.S.E., to Mrs. Harriet Kenworthy, of Leeds.

On the 23rd ult., at Rosslyn Chapel, St. Matthews, W. O. Dawson, F.R.C.P., to Jessie Wilhelmina, daughter of J. Campbell, M.D., late of the 93rd Highlanders and Military Prison, Greenlaw.

On the 23rd ult., at the Presbyterian Church, Regent-square, S. Allen, M.D., to Elizabeth, daughter of S. Gibson, Esq., of Gordon-square.

On the 23rd ult., at Leominster, H. Horton, M.R.C.S.E., of Wednesbury, Staffordshire, to Sophia, daughter of the late J. Winnall, Esq., of Ladymeadow, Herefordshire.

On the 25th ult., at Christchurch, Spitalfields, H. A. Kidd, M.D., of Calcutta, to Edith Alice, daughter of the late A. B. Wright, Esq., for many years Editor of the "Atlas" and "Home News."

On the 25th ult., at Mortlake, G. F. Elliott, M.B., Assist.-Surg. R.M.L.I., to Rebecca, daughter of D. De Castro, Esq., of East Sheen, Surrey.

DEATHS.

On the 9th of June, at Dugshai, Simla, N. D. Scott Wallich, Surgeon 1st Bengal Cavalry.

On the 9th of June, at Meerut, East Indies, F. O. Barker, M.D., Surgeon 80th Regiment, Bengal.

On the 14th ult., at Guisborough in Cleveland, Yorkshire, T. Bird, L.S.A., aged 60.

On the 18th ult., Thomas Joyce, Esq., of Glasnevin, formerly Governor of the Apothecaries' Hall of Ireland.

On the 19th ult., at Sussex-place, Southampton, Dr. H. Dusautoy, aged 54.

On the 22nd ult., at Old Burlington-street, J. Gray, M.R.C.S.E., aged 75.

On the 23rd ult., at Perry-hill House, Quinton, E. Jones, Surgeon-Dentist, of Birmingham, aged 58.

On the 23rd ult., at Hawlar, W. F. Carter, M.D., Surgeon R.N. 27th Jan. 1809, aged 79.

On the 24th ult., at the Dundee Royal Infirmary, John Glen, M.D.

On the 24th ult., James Ogilvy, M.D., of Coventry, aged 54.

On the 25th ult., at the Hotel de Normandie, Rue St. Honoré, Paris, Philip Reilly, L.R.C.P.Ed., and late J.P. for Hertford, aged 57.

On the 27th ult., J. M. Churchill, M.R.C.S.E., of Watford, late Coroner for the Borough of Colchester, Medical Attendant to the Essex Hall Asylum for Idiots, Colchester, Author of a "Treatise on Acupuncture," and "Medical Botany and Vegetable Toxicology," aged 66.

On the 28th ult., at Wakefield, Yorkshire, suddenly, from disease of the heart, Joseph Bennett, M.R.C.S.E., aged 71. He was one of the first Surgeons appointed to the West Riding Lunatic Asylum in 1818.

BOOKS ETC. RECEIVED.

Dr. Lawson's Manual of Popular Physiology.

Dr. Turner on the Existence of a System of Anastomosing Arteries.

Dr. Storer (Boston, U.S.) on Artificial Dilatation of the Os and Cervix Uteri.

The Angler Naturalist: a Popular History of British Fresh-Water Fish. By Mr. H. C. Pennell.

Medical Diary of the Week.

MONDAY, Aug. 3	ST. MARK'S HOSPITAL FOR FISTULA AND OTHER DISEASES OF THE RECTUM.—Operations, 1½ P.M. METROPOLITAN FREE HOSPITAL.—Operations, 2 P.M.
TUESDAY, Aug. 4	GUY'S HOSPITAL.—Operations, 1½ P.M. WESTMINSTER HOSPITAL.—Operations, 2 P.M.
WEDNESDAY, Aug. 5	MIDDLESEX HOSPITAL.—Operations, 1 P.M. ST. MARY'S HOSPITAL.—Operations, 1 P.M. UNIVERSITY COLLEGE HOSPITAL.—Operations, 3 P.M. LONDON HOSPITAL.—Operations, 2 P.M.
THURSDAY, Aug. 6 ...	ST. GEORGE'S HOSPITAL.—Operations, 1 P.M. CENTRAL LONDON OPHTHALMIC HOSPITAL.—Operations, 1 P.M. GREAT NORTHERN HOSPITAL, KING'S CROSS.—Operations, 2 P.M. LONDON SURGICAL HOME.—Operations, 2 P.M. WEST LONDON HOSPITAL.—Operations, 2 P.M. ROYAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M.
FRIDAY, Aug. 7	WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1½ P.M.
SATURDAY, Aug. 8 ...	ST. THOMAS'S HOSPITAL.—Operations, 1 P.M. LOCK HOSPITAL, Dean-street, Soho.—Clinical Demonstrations and Operations, 1 P.M. ST. BARTHOLOMEW'S HOSPITAL.—Operations, 1½ P.M. KING'S COLLEGE HOSPITAL.—Operations, 1½ P.M. ROYAL FREE HOSPITAL.—Operations, 1½ P.M. CHARING-CROSS HOSPITAL.—Operations, 2 P.M.

To Correspondents.

TEASE.—We are able to give the following particulars respecting the connexion between the Queen's College and the Hospital, Birmingham:—On the 17th of July, 1843, the Royal School of Medicine and Surgery became incorporated under the name of the Queen's College. In their Charter of incorporation no reference was made to the Queen's Hospital. On the 15th of June, 1847, the College obtained a supplemental Charter. By this Charter the College was re-incorporated in the name of the "Principal and Council of the Queen's College, Birmingham." This Charter set out, amongst other things, that the Principal, Vice-Principal, and Council had assisted in erecting, by means of public and private donations and benefactions, the Queen's Hospital, wherein the students in the medical department of the said College were receiving clinical instruction from the several professors, physicians, and surgeons attached to the College and Hospital. It then gave power to the Principal and Council of the Queen's College and their successors to hold property—not on their own behalf, but on that of the Queen's Hospital—to an amount not exceeding the annual value of £2500. It appointed two members of the Queen's Hospital Committee, as well as the senior physician and senior surgeon of the hospital, on the College Council. It further vested in such Council the power of appointing the medical and surgical officers of the Queen's Hospital, and it provided that the fees from students in attendance at the hospital should be paid to the treasurer of the Queen's College for the use and purposes of the hospital, legalizing, however, the paying over such portion of the fees as the Council should think fit to such medical and surgical officers as were engaged in the actual duties of professors of the College and surgical officers of the hospital.

Obstetricus.—The ergot of wheat may be used instead of the ergot of rye. The former has all the medicinal properties of the latter, with the advantage of resisting decay and moisture, and hence may be preserved effective a longer time. The ergot of rye is very apt to become deteriorated by damp, and is easily destroyed by mites.

L.R.C.P. Edin.—It is occasionally hereditary, but it is the exception.

PRESCRIBING DRUGGISTS AND ACCIDENTAL POISONING.

To the Editor of THE LANCET.

SIR,—I was sorry to see in your journal of July 18th another death from the ill-effects of counter practice. Now, I am a druggist myself, and am unluckily "damned in bearing a good name"—that is, I have been thirty-five years in this shop, and have seen two generations of my customers, and though much averse to prescribing, it is an utter impossibility to avoid it. Let a child be labouring under any acute disease, the druggist is supposed to be able to cure it with a powder. "Go to White's," the old women say. "I have known him since he was a boy; he will do as well as a doctor." Children suffering from croup, inflammation of the lungs, scarlet fever, &c. &c., are brought here, and I assure you I have the greatest difficulty in persuading the parents to call in medical advice. It is only by telling them that if the child dies there will be a Coroner's inquest, that they can be induced to see a surgeon. If I had no conscience I might do a "roaring trade" by prescribing alone. Without boasting, I have perhaps a better knowledge of disease than many druggists in our neighbourhood, having been apprenticed to my father (a surgeon), and attended two courses of lectures at the London Hospital; but I dislike prescribing in any shape.

I read your article to a druggist the other day, and he told me his chief business was in prescribing. I told him plainly that it was such men as himself that continually kept us at variance with medical men. The fact is this: a druggist's business is either very good or very bad; and when it happens to be the latter, some persons are not very scrupulous in what way money comes to the till. Now, how is this to be remedied? Whilst there are poor people, they will come to our shops. If I say that I am only a druggist, and refuse to prescribe, they say, "If you will not give us medicine, there are others who will;" so then I get into disgrace.

Another grievance we have in with respect to the sale of poisons. Some years back, when the Poison Bill made a stir amongst us, I kept an account for a fortnight of all the poisons I sold. I think the number of purchases was about 300, of which there were 70 pennyworths of white precipitate for destroying vermin in children's heads. Children of all ages are sent for laudanum, oxalic acid, sugar of lead, &c.; and if you refuse to serve them, you are bullied by the parents. Now, as regards the method proposed of making entries into a book of each poison sold, I might as well shut up shop as attempt it; for I frequently serve 150 people myself on a Saturday night from six till twelve.

Then with regard to the use of bottles of a peculiar shape in which to retail dangerous preparations, I am confident that if any extra expense were thus entailed (and there must be), there are persons who would sooner risk poisoning their whole families than pay it. There is such a degree of carelessness attached to the purchase of dangerous preparations in this neighbourhood as would astonish you. I have seen women, after purchasing syrup of poppies, deliberately put the cup to a child's mouth to drink from. I refused to sell some paregoric to a woman on hearing that she was going to give some to an infant. I saw that woman (after abusing me) go to a druggist's in the neighbourhood, and obtain it. These things occur daily. I am always in fear of an inquest; for my customers often cannot or will not read labels. I keep a paregoric for retail to *some* customers *without* opium, and syr. pap. alb., diluted with syr. simp., or half the children would be poisoned. So you see I am a man of many griefs. Can you, who do so much good, lighten them? If so, you would much oblige,

Your obedient servant,

F. WHITE, Druggist.

Gloucester-terrace, Commercial road East, July 21st, 1863.

P.S.—Whilst writing the above, a girl has come in to tell me that she has just swallowed half a teacupful of sol. zinci sulph., that she kept mixed for her eyes. But the week is young; before Saturday I shall have some more blunders.

A Reader.—Dr. Angus Smith employs the permanganates to test the purity of air, judging from the amount of decomposition of solution what quantity of oxidizable material there is in the air tested. He is now engaged in a most important official inquiry into the condition of the atmosphere in mines. This has delayed for a short time the publication of a work which will contain all the information that our correspondent requires. The official Report of the Royal Commission on Mines will also include the particulars of the process adopted by Dr. Smith in his investigations.

Dr. Edward Adams.—The name will be printed in the official list.

DEAD AND LIVING WELLS.

To the Editor of THE LANCET.

SIR,—If an Act of Parliament is required for one sanitary measure more than another, it is that of compelling persons who sink dead wells in the vicinity of towns or other places, to make such wells impervious to moisture by cementing the interior, or surrounding the exterior wall with clay or other impenetrable substance. In those localities where the soil is *gravelly*, the noxious fluid may percolate a considerable distance, and find its way into wells of pure spring water. I am of opinion, from observation, that such impregnations may be so slight as scarcely to attract attention, yet capable of generating fever as readily as the exhalations from drains, or the absorption of noxious matters into the blood, when pent up in the colon.

A person residing in this neighbourhood informed me a short time since that he had taken the precaution to cement the interior of the dead well on his premises, in order to prevent the fluid contents from percolating into the living well. He also adopted a very ingenious plan for separating the liquid from the solid matter, by partitioning the dead well with perforated bricks, so as to allow the fluid portion to run into the apartment, which fluid was occasionally pumped up and used as liquid manure, while the solid matter would, he concluded, become so hard as to be cut out with a spade every seven years.

If this ingenious plan were to be generally adopted, and made compulsory by Act of Parliament, a great sanitary improvement would result in villages and small towns which are not drained. It would be necessary, however, to deodorize the fluid when pumped up from the dead well, unless the liquid is carried to some distance from the dwelling places; otherwise *fevers*, as well as the soil, would probably be fertilized.

In conclusion, I would suggest that dead wells might be constructed on a similar principle to the above by the banks of the Thames, or by the side of rivers in the locality of towns, and the contents of the wells could be carried away in barges, and sold for manure.

I am, Sir, your obedient servant,

Southampton, July, 1863. HENRY OSBORN, M.R.C.P. Lond.

IF *Mr. William Parker* will send a very brief account of his mode of treatment, it shall be inserted.

Medical Student, R. M.—1. Yes, if it were a properly conducted institution. —2. They cannot justly be styled quacks.

PRECEDENCE OF VOLUNTEER SURGEONS.

To the Editor of THE LANCET.

SIR,—In reply to the inquiry of your correspondent, "An Assistant-Surgeon, R.V.," I beg to state that by the "Regulations for the Volunteer Force," dated War Office, Jan. 19th, 1861, an honorary assistant-surgeon has no substantive rank, but by courtesy is allowed the rank of lieutenant. An assistant-surgeon, R.V., has substantive rank as in the army. Clause 56 determines your correspondent's question, by affirming that "no officer holding an honorary commission can, in virtue of it, take precedence of any officer holding a substantive commission of the same rank."

I am, Sir, yours obediently,

A. ASPLAND,

Dukinfield, July, 1863. Surgeon 4th Battalion, Cheshire R.V.

Not one of the Faculty.—The attack upon the Faculty of Physicians and Surgeons of Glasgow may contain some truths; but it cannot be inserted unless the name and address of the writer are attached to it.

A CASE FOR ARBITRATION.

To the Editor of THE LANCET.

SIR,—Perhaps you will allow me to say that I so entirely respond to your suggestion for a medical arbitration to investigate and to pronounce an opinion upon the entire professional bearing existing between Mr. Blackett and myself during the past three years, that I will allow him to name for this purpose three Durham practitioners. With such a concession, with such an advantage, Mr. Blackett will surely not refuse this proposal; yet I am under the impression that there will be no "medical arbitration."

I am, Sir, your obedient servant,

Carr Villa, Durham, July, 1863. R. H. S. CARPENTER, Physician, &c.

*** We think this a fair and reasonable proposition. It is one we heartily recommend for adoption.—ED. L.

A. B. and C. D.—As C. D. did not interfere in any way, and was not acquainted with the attendance of A. B., and as moreover he called on A. B. after seeing the patient, we do not think his conduct open to censure.

Mr. Mason is thanked.

ON IMPREGNATION.

To the Editor of THE LANCET.

SIR,—I shall be obliged if Dr. Packman, whose ingenious letter "On Impregnation" appeared in your number of July 18th, will state on what scientific authority he asserts "that queen bees lay female eggs first, and male eggs afterwards;" and that if the queen bee's "conception be protracted beyond a lunar month from her birth, she will produce males only."

I have not got Siebold on Parthenogenesis at hand to refer to; but I do not recollect that he established either of these propositions, although he distinctly proved that the queen bee could discharge at will impregnated or non-impregnated eggs, the former producing drones, and the latter working and queen bees.

I remain, Sir, yours truly,

St. Mary Church, July, 1863. D.

X. Y. Z. and W. P. S.—The 4th section of the Local Management Act, 1858, 21 and 22 Vict., c. 98, incorporates the Public Health Act, 1848, 11 and 12 Vict., c. 63, the 40th section of which gives power to the Local Board of Health, from time to time, *if they shall think fit*, to appoint a fit and proper person, being a legally qualified medical practitioner, or member of the medical profession, to be, and be called, the Officer of Health. The Act is permissive, not peremptory; the appointment optional, not obligatory. The above statutes include the Parliamentary enactments on the subject.

VACCINATION AND SMALL-POX.

To the Editor of THE LANCET.

SIR,—I think that "Studens" will find a more probable explanation of his case in the following history than that variola would be likely to be taken from vaccina:—

A short time since I was attending a case of confluent small-pox, from which there were, of course, numerous scabs; and on inquiring as to whether sufficient care was taken in disposing of them, so that they would not be likely to be dangerous to others, I was seriously told that they were very carefully swept away into the farm-yard, which is at the back of the house, and quite open, and into which it is the duty of a number of people to enter. That is truly giving the disease to the mercy of the winds, and it is unnecessary for me to say that several of the people employed on the land suffered from the disease. I firmly believe that the disease is communicated by particles of the scabs, and I think that its mysterious appearance in certain places can by such a theory be very satisfactorily explained.

I remain, Sir, yours very truly,

July, 1863. M.D.

Rhinoceros.—Does our correspondent mean to say that diseases of the nose and loss of smelling have become so prevalent of late years that it is necessary to establish a special hospital for their treatment? We would advise him not to try the experiment.

THE letter of *Paris* will probably appear next week.

THE SEALING OF ULCERS.

To the Editor of THE LANCET.

SIR,—I beg to say that I have found the hermetically sealing of large ulcers by means of adhesive plaster, collodion, and oil-silk very beneficial, especially when the wounds in the ward are not doing well. I would recommend its further trial by those who have many cases under their care. The sealing should be removed every third day, soap and lukewarm water used, and any granulations just touched with caustic, as they are generally abundant.

Your obedient servant,

July, 1863. H. B. FRANKLYN, Surgeon 10th Regt.

Mr. C. Trustram's communication reached us just as were going to press. It shall appear in the next LANCET.

C. C.—Doubtful fungi should never be employed without having been previously boiled in vinegar. We are probably too shy of these vegetables in this country, whereas upon the Continent people are often too bold in their use.

C. shall receive a private note.

Curator.—A statement of the facts should be forwarded to the Registrar-General.

THE LATE DR. M'WILLIAM.

To the Editor of THE LANCET.

SIR,—Permit me to add to your apposite remark at the end of your just encomium passed on the late estimable Dr. M'William, that it has been so in all ages. Apollyon, the destroyer, has gained all; Salvator, the saviour, has received none of the honours or emoluments the world has to bestow. Which of these two masters is it best in the end to serve? Yours, &c.,

July, 1863. ELECTUS.

A Martyr, (Westbury.)—There are several preparations sold for the purpose. Most of them, properly used, will effect the purpose, and may be obtained of any chemist.

L.R.C.P., Enquirer.—"A member of the Royal College of Surgeons in actual practice as a surgeon."

A Reader of THE LANCET should not forget that it has long been the practice of quacks and impostors, when exposed and discomfited, to refer to the "martyrdom" of Harvey and Jenner. The devil can, when it suits him, "quote scripture."

THE DAY TESTIMONIAL.

To the Editor of THE LANCET.

SIR,—In February, 1861, I sent to Dr. Richardson my subscription to the "Day Testimonial." Has Dr. Day ever received the money subscribed, or who has got it? Yours, &c.,

July, 1863. SUBSCRIBER.

*** Dr. Richardson will, no doubt, supply the information required.—ED. L.

A Chemist's Apprentice says, in reference to the cause of boils and carbuncles, "I feel sure that they are caused by the use of impure German or Dutch yeast, used by the *cheap* bakers, of whom those poor folk buy their bread of necessity."

E. T.—1. The name of the plant yielding the "Calabar poison bean" is Physostigma venenosum.—2. Dr. Anderson, Superintendent of the Calcutta Botanic Garden, is inspecting the introduction of cinchona into the Sikkim Himalayas.

STAINS FROM VARIOLOID ERUPTIONS.

To the Editor of THE LANCET.

SIR,—Will you or any of your readers kindly inform me whether there be any mode of treatment by which the disappearance of the purplish red stains left after an attack of variola can be hastened? Yours, &c.,

July, 1863. F. G.

Mr. Hannibal Bingham.—The reduction of a dislocated shoulder-joint has been effected for centuries by placing the heel in the axilla, or by the aid of a ladder, or by resting the axilla upon the top of a door. Engravings illustrating these various modes of reduction may be seen in Galen's works, printed some centuries back. We may refer, however, to a folio edition, in four volumes, published in 1562, which can be seen in any good medical library.

Prof. Longmore is thanked.

Mr. Honestus Lovegus.—The desired information will be found in Lemprière's Classical Dictionary.

M. M.—An excellent article on the subject appeared in our witty contemporary, *Punch*, about six weeks since.

A PERTINENT QUESTION.

To the Editor of THE LANCET.

SIR,—Your quick editorial eye will not have failed to observe that at a reception on Saturday evening last in a leading fashionable house in Piccadilly, the name of a medical baronet, of great literary as well as professional eminence, appeared amongst the list of guests in juxta-position with that of a notorious homœopath, at present much patronized by the "upper 10." Did the baronet know the homœopath was to have been invited?

I remain, Sir, yours, &c.,

July 27th, 1863. ARGUS.

Sanitarian.—It is very doubtful. Recent investigations tend to prove that at certain times of the year the sewage discharged at Barking Creek will return with the upward tidal current, and may be prejudicial or dangerous to health from the surface evaporation of so large a bulk of water in constant agitation.

Botanicus.—1. Our correspondent should join one of the Field Naturalists' Clubs, which are becoming so popular and useful.—2. The last edition of Hooker's British Flora.

BRAN BISCUITS.

IT is a recognised principle in the treatment of diabetes that all articles containing sugar and starch should be rigidly excluded from the diet. In practice, however, this has until lately been found difficult to accomplish. It occurred to the late Dr. Prout that bran was well adapted for the use of the diabetic, since it contains a large proportion of nitrogen, of oil, and diastase and salts. The objection to it, however, was that it also contained some starch, from which it was difficult to free it, except by the more or less complete destruction of some of its more valuable constituents. This difficulty has been almost entirely overcome, and bran biscuits and cakes are now prepared which are at once nutritious, free from starch, and palatable. This description applies particularly to bran biscuits made by Mr. Blatchley, of Oxford-street.

COMMUNICATIONS, LETTERS, &c., have been received from—Dr. Henry Bennet; Dr. Pavy; Dr. W. B. Carpenter; Mr. Henry Smith; Mr. Geo. Lawson; Dr. Wardall; Mr. T. Ross, Wakefield; Mr. W. Smith, Chesterfield, (with enclosure;) Mr. Wescott, (with enclosure;) Mr. Moore, Sheffield; Mr. Deane, Birmingham, (with enclosure;) Mr. Franklyn; Mr. Pierce, Ledbury, (with enclosure;) Mr. Marshall, Clifton; Mr. Aspland; Mr. Brown, Herne Bay, (with enclosure;) Mr. Hobbes, Belbroughton; Mr. T. Boys; Mr. Cooke, Salford, (with enclosure;) Mr. Parker, Bath; Dr. Kidd; Mr. H. G. Edge, Basford, (with enclosure;) Mr. Evans, (with enclosure;) Mr. W. Calthrop; Mr. Proctor, Rothes, (with enclosure;) Mr. Welby, (with enclosure;) Mr. Young, Parkhead, (with enclosure;) Mr. Connolly, Cork; Mr. G. N. Smith, Wolverhampton, (with enclosure;) Dr. Fraser, Edinburgh; Mr. T. Fisher, (with enclosure;) Mr. Noble, (with enclosure;) Mr. Curtis, Villemour, (with enclosure;) Mr. O'Brien, Portobello, (with enclosure;) Mr. J. Gronway, (with enclosure;) Mr. Carter, Potter Newton; Mr. J. Reddrop, Tiverton; Mr. Moreton, Tarvin; Mr. R. Keene, Derby; Mr. J. Potter; Mr. J. Smith; Dr. Foote, Achbald, Pennsylvania; Mr. Lansdown, Bristol; Mr. Yoe, Manchester; Prof. Longmore; Mr. Darby; Dr. O'Reilly, Bishops Stortford; Mr. Laing, (with enclosure;) Mr. R. Storrs; Mr. Stewart; Mr. Trustram, Tunbridge; Mr. Currie, Brighton, (with enclosure;) Mr. Miller; Mr. C. Blackett, Durham; Mr. Pigot, Leamington; Mr. J. Tudor, Dorchester; E. E.; T. F., (with enclosure;) A. R. P.; A Chemist's Apprentice; Electus; British Meteorological Society; A Reader of THE LANCET; R. M.; Argus; Surrey County Hospital; Curator; C. G. B., (with enclosure;) Enquirer; F. G.; D.; Not one of the Faculty; A Martyr; Tenax; Paris; Medicus, (with enclosure;) Chirurgus, (with enclosure;) L.R.C.P. Edin.; A. Y. Z.; Obstetricus; Botanicus; &c. &c.

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